APPLIED RESEARCH BRANCH

Strategic Policy

Lack of Food Security: Focussed Literature Review and Research Framework

W-01-4E

by
Satya Brink
August 2001

Working Paper

Canada

SP-454-08-01E

Applied Research Branch
Strategic Policy
Human Resources Development Canada

Lack of Food Security: Focussed Literature Review and Research Framework

W-01-4E

by
Satya Brink

August 2001

The views expressed in papers published by the Applied Research Branch are the authors' and do not necessarily reflect the opinions of Human Resources Development Canada or of the federal government.

■

The Working Paper Series includes analytical studies and research conducted under the auspices of the Applied Research Branch of Strategic Policy. Papers published in this series incorporate primary research with an empirical or original conceptual orientation, generally forming part of a broader or longer-term program of research in progress. Readers of the series are encouraged to contact the authors with comments and suggestions.

—

Printed Imprimé 2002
ISBN: 0-662-31011-X
Cat. No. N° de cat. MP32-28/01-4E

General enquiries regarding the documents published by the Applied Research Branch should be addressed to:

HRDC Publications Centre
Human Resources Development Canada
140 Promenade du Portage
Phase IV, Level 0
Hull, Québec, Canada
K1A 0J9

Facsimile: (819) 953-7260
http://www.hrdc-drhc.gc.ca/arb

Si vous avez des questions concernant les documents publiés par la Direction générale de la recherche appliquée, veuillez communiquer avec :

Centre des publications de DRHC
Développement des ressources humaines Canada
140, Promenade du Portage
Phase IV, niveau 0
Hull (Québec) Canada
K1A 0J9

Télécopieur : (819) 953-7260
http://www.hrdc-drhc.gc.ca/dgra

Abstract

Although the responsibility for food security rests with Health Canada and Agriculture Canada, Human Resources Development Canada (HRDC) has been concerned with insecurity of various types. The Applied Research Branch has studied job insecurity and income insecurity. This litterature review and framework on food insecurity is part of that work.

There are indications that households experiencing food insecurity arrive at this situation due to different reasons. The individuals in these households would therefore rely on a variety of coping strategies. If this conclusion proves true, then the policy response has to be diverse also.

The process used in this paper consisted of a selected literature review to build upon work done on the issue of food insecurity, and based on this review, the development of a research framework for insecurity due to lack of food. The paper was sent to about thirty people in Canada and a few in the United States for comments; it was revised based on the comments. The Applied Research Branch (HRDC) subsequently arranged with Statistics Canada to conduct a one time supplement to the National Population Health Survey, for data collection on food insecurity.

This working paper supplements the focussed review of literature with annotations of more recent relevant publications. It also discusses the revised research framework that was used to develop the instrument for the Supplement to the National Population Health Survey on Food Insecurity. An analysis of the data is forthcoming.

Acknowledgements

This working document is the result of contributions from many people who are concerned about the lack of food security in Canada. Co-op students worked on the project during the years 1999-2001. The team working on the National Population Health Survey at Statistics Canada worked in close co-operation with the Applied Research Branch at Human Resources Development Canada. The draft framework was reviewed by about thirty people in Canada and a few in the United States.

Table of Contents

1. Brief Overview Based on the Literature Review 1

2. Selected Annotated Bibliography 4

2.1 Definitions and Conceptual Models 4

2.2 Measurement and Indicators 11

2.3 Characteristics of Food Insecure Individuals and Their Experience 16

2.4 Factors Influencing Food Insecurity 31

3. A Research Framework for the Lack of Food Security 34

3.1 Introduction 34

3.1.1 Old problems in new contexts
3.1.2 Consequences of not being food secure in "food rich" countries
3.1.3 The emerging context

3.2 Income and Expenditure 40

3.3 Characteristics of Those Who Lack Food Security 41

3.3.1 Research and policy issues
3.3.2 Suggested questions

3.4 Differences Between Those Who Are Food Secure and Those Who Are Not 45

3.4.1 Income management
3.4.2 Food acquisition
3.4.3 Food management

3.5 Child Food Insecurity 50

3.6 Limitations and Federal Priorities 51

Appendix A: Peer Reviewers 53

Appendix B: Review of Previously-Used Questions 55

Appendix C: Questions in the Food Insecurity Supplement, 1998-1999 59

1. Brief Overview Based on the Literature Review

The responsibility for food, nutrition, health consequences and security of food supply rests with Health Canada and Agriculture Canada. At Human Resources Development Canada, the Applied Research Branch (ARB) conducts research on other forms of insecurity. The Branch has researched, for example, job and income insecurity. This research on food insecurity is part of that work on different types of insecurity.

Currently, some questions on the National Population Health Survey (NPHS) and on the National Longitudinal Survey of Children and Youth provide information on families and children who experience difficulties due to the lack of food. The ARB planned a supplement to the NPHS data in order to broaden the picture of the experience of food insecurity.

The purpose of this literature review is to identify definitions and conceptual models that focus on the insecurity aspects of the anxiety related to the lack of food. The intention was to review existing questions for use in the NPHS supplement. Based on the literature review, a research framework was constructed, which is discussed in Chapter 3.

There is a large body of research on hunger. The lines between hunger and food insecurity are blurred, and these terms are often used as synonyms. Nutrition or health professionals have conducted most of the research on hunger, among them many notable Canadian researchers. The research has focussed on identifying prevalence of hunger, conditions related to its occurrence and consequences following episodes of prolonged hunger.

To grade the severity of the problem, researchers have used categories such as "moderate" and "severe" hunger. Some studies have focussed on the impact on households; others have studied the impact on individuals, particularly children. Radimer et al (1992) identified two levels of hunger: The first individual level with four components – insufficient intake, nutritional inadequacy, psychological aspects (deprivation, lack of control) and social aspects (not meeting the social norm of three meals a day); and the second household level with four components – depletion of food resources, unsuitable food options, food anxiety and acquisition of food in socially unacceptable ways. Though the impact of

insecurity was noted, it did not receive the same attention. The broader consequences were mentioned by several researchers. Food insecurity in developed nations encompasses not only the physical experience of hunger, but also coping mechanisms, nutritional concerns, social and psychological aspects (Kramer-LeBlanc and McMurry, 1998). It has also been related to social exclusion (Radimer et al. 1992), low productivity (Daponte, 1996) low human and social capital (Starkey, et al. 1998).

The association with poverty has been well documented and many researchers have noted that households relying on government transfers are not protected from the experience of food insecurity. Key among the factors was the depth of poverty, since hunger is an extreme form of disadvantage. Economic security has been recognized as complex and factors such as adequacy, stability, and reliable flow have been noted (Kramer-LeBlanc and McMurry, 1998). When lack of food is due to irregularity and insecurity of income, the resulting coping strategies are for the periods of food shortage rather than a stable strategy, generally relying on an ad hoc system (Tarasuk and Davis, 1996). Researchers have also noted the mutual dependence between health and the ability to earn adequate income.

The justifiable focus on poverty has eclipsed other associated or independent factors related to food insecurity. Other potential reasons such as physical disability and poor health were often not measured (Blumberg et al. 1999). Food insecurity among the elderly is more complex than simply one of lack of access, because of the inability to prepare and eat food available due to functional impairments (Frongillo, 2001). Riches (1996) has identified the importance of "non-food" factors and warns against the use of indirect measures (such use of food banks) alone to determine food insecurity. The importance of contextual factors such as economic context, income management, food acquisition, food management at home, and coping strategies were also noted (Olson, 1992).

Food insecurity is an experience and a process, comprising of a sequence of events, where the household manages the nature and extent of compromise at each event in the sequence. Quality was traded-off for quantity, for instance. This managed aspect of food insecurity means that each household will experience different components of food insecurity at different time and different degrees (Tarasuk, 2001). The experience of food insecurity may be episodic arising from loss of income due to termination of benefits or a job or due to unplanned and unexpected expenditures such as illness. Monthly fluctuation with reduced intake at the end of the month was noted by Wilde and Ranney (1998). Wolfe

et al (1998), describe a pathway of progressive severity rather than a dichotomy between being food secure or insecure. A United States study has categorized households as being food insecure and being food insecure with hunger (Andrews 2000). Therefore, the pathways to the episodes of financial crisis and the temporal patterns are important to understand the nature of insecurity experienced by households.

In order to avoid the long and difficult task of instrument design and testing, it was hoped to use questions that had already been used in large surveys. The Cornell Radimer scale and CCHIP (Community Childhood Hunger Identification Project) questions were considered. In the end, it was decided to use a series of questions for the purpose at hand, which were developed with Statistics Canada, based on successful questions that had been previously used. Principles identified in the development of food insecurity instruments such as the fact that adults and children experience food insecurity differently and both quantity and quality of food are important factors (Kendall et al. 1995) were incorporated in the design.

2. Selected Annotated Bibliography

2.1 Definitions and Conceptual Models

American Institute of Nutrition, as cited in Olson, C.M. "Food Insecurity and Hunger: Poverty Policy Issues for the 1990s and Beyond." *Focus*, vol. 18(2), fall winter 1996: 61-64.

Key Words: food insecurity, research, public, private.

Olson reviews the advances made in first world food insecurity research over the last two decades, defining it as a condition existing "whenever the availability of nutritionally adequate and safe foods or the ability to acquire acceptable foods in socially acceptable ways is limited or uncertain." Food insecurity is identified at the individual and household levels, and evidence is cited validating its measurement through use of questionnaire-based methods, such as the Cornell Radimer scale and the CCHIP (Community Childhood Hunger Identification Project). Lastly, food insecurity is considered for its human and financial costs to society, specifying the need for government intervention into what is described as a public problem.

Kramer-LeBlanc, Carol S.; and Kathryn McMurry (Eds.). (1998). "Discussion Paper on Domestic Food Security." *Family Economics and Nutrition Review*, 11 (1&2): 49-59.

Key Words: food security, economic security, United States, policy.

The United States is a nation characterized by an abundant supply of nutritious, high quality food that is accessible to the majority of the population, who spend a lower relative percentage of their income budget on food than many of their international counterparts. Despite the state of food security that exists for the most individuals, many citizens experience a daily struggle against food insecurity, fearing the hunger that may ensue should their battle be lost. Food insecurity in developed nations is perhaps more subtle than that documented elsewhere, encompassing not only the physical experience of hunger, but also coping mechanisms, nutritional concerns, social and psychological aspects. It is nonetheless a critical issue for consideration in any civil society, and this discussion paper reflects on ways to address food insecurity involving government, non-governmental organizations and individuals.

Food security is a function of many factors that empower individuals to access nutritionally adequate and safe food in appropriate ways, including employment, education and community variables. Economic security in particular is cited as a major determinant and outcome of individual health and nutritional status, and its maintenance is an important precursor to permanent food security. Economic security itself is a complex outcome related to steady, adequate income, family stability, affordable expenditures and access to a social safety net in times of need. In formulating policy directed at maintaining and enhancing domestic food security, it is also critical to consider economic security as a prerequisite of this condition.

Secondly, access is discussed as a major issue in food insecurity. An estimated 12% of the 100 million families in the United States are said to be food insecure, with 4% experiencing hunger and reduced intake as a result. Upon consideration of recent changes to United States Department of Agriculture food assistance to programs and overall welfare reform, this paper states that the number of food insecure individuals will likely increase. Specifically, several vulnerable groups are identified as targets for policy, and whose unique situations must be considered in its application. Homeless people depending largely on assistance organisations to meet their food needs may have difficulty in negotiating aid networks, and also in storing and preparing food. Changing eligibility requirements for aid programs also must be considered, particularly for immigrants and other such affected groups. Programs aimed at helping children meet their food needs are commonly characterised by temporal inconsistency, as in the summertime when school meal programs are no longer in effect. Aboriginal populations and others living in rural or remote areas may experience difficulty in accessing fresh, varied foods that they can afford, particularly in regions with high unemployment.

Stemming from the two aspects of food insecurity considered, namely economic security and food access, extensive policy recommendations are made which emphasise cooperation and collaboration among all groups involved, including all levels of government, individuals, communities and non-governmental organizations.

McIntyre, Lynn; Sarah Connor; and James Warren. (1998). *A Glimpse of Child Hunger in Canada*. Working Paper W-98-26E. Applied Research Branch, Human Resources Development Canada.

Key Words: assessment, child, family.

Using hunger as a guide, these researchers aim to provide a glimpse of child poverty in Canada. Data was obtained from the National Longitudinal Survey on Children and Youth (NLSCY), consisting of extensive information pertaining to the socio-demographic, health, family functioning and educational characteristics of Canadian households. Objectives for this study consisted of identifying and describing the following: (1) characteristics of hungry families; (2) responses to hunger and coping strategies; and (3) characteristics of caregivers, families and children that predict hunger, responses to it and coping strategies used.

When attributes of food-insecure families were compared with other Canadians, they were found to be strikingly similar, with a few meaningful differences. The small sample of food insecure families were characterized by a high prevalence of single parents, very low income, and poor self-reported health status. Most of these families live in urban centres, and while no visible concentration of ethnic minorities or immigrants appeared, aboriginal families were disproportionately represented among the food insecure. Many of the women heading poor, food insecure households were educated beyond the high-school level, indicating that education is not sufficient in shielding individuals from poverty and hunger. In general, factors that are predictive of family food insecurity include very low income, single-parent status, receipt of social assistance benefits, poor respondent (Person most knowledgeable or PMK) health, aboriginal status, and parent seeking work.

The most common coping strategies that parents use to postpone hunger when faced with food insecurity include turning to friends and family for help, social assistance and food aid programs, skipping or having smaller meals and eliminating snacking. When food scarcity levels become dire, mothers have been known to deprive themselves of nourishment so as to feed their children. Hence, childhood hunger is the least common and most severe form of food insecurity. Hungry families also exhibit a markedly high rate of tobacco use, which could be considered a coping strategy for stress reduction and appetite suppression.

The fact that families receiving incomes from social assistance or minimum wage employment are subject to food insecurity pointed to the inadequacy of these safety net transfers. The relationship between ill health and food insecurity may have implications for future productivity and social well-being. Lastly, food banks have become virtually institutionalized in Canadian society, and although their efforts function

to maintain the welfare of many citizens, they are often an unreliable source of assistance, and a non-charitable response is needed.

Olson, K.W. (1992). Final report: Edmonton Food Policy Council. *Community Food Needs Assessment – A Community Development Approach.* Health Promotion Contribution Program.

Key Words: hunger, food insecurity, community, solutions.

This study conducted interviews with 460 low-income Edmontonians with the aim of identifying criteria for defining food security, its levels and barriers in the target communities. Low-income was defined using the cut-off employed by Statistics Canada, as having spent 58.5% or more of income on food, clothing, and shelter. Both adult and child scales were used in the measures, which were developed from those used by FRAC (Food and Research Action Center), and CCHIP (Community Childhood Hunger Identification Project). The research was successful in identifying who was hungry, why, the types of coping strategies used, and what action is needed in terms of programs and services to alleviate food insecurity.

Overall, income was found to be the most critical variable in determining families' food security. Those individuals experiencing the greatest food insecurity are also those with the highest economic insecurity, namely single parents, recipients of social assistance and working poor families. The greatest perceived obstacle to food security is lack of income, as when incomes fall substantially below the poverty line, families simply run out of money to buy food. Additional barriers to food security include transportation, ill-health and disability, lack of job skills or education, lack of social support, low self-esteem, lack of affordable housing, and lack of childcare.

An innovative strategy was used to determine potential solutions, involving meetings with the low-income community, government, and the food industry. In determining what action is needed in formulating long-term solutions to food insecurity, 62% of respondents said more money was necessary to ensure that they would obtain enough good food to eat. This translates again into a focus on income as a crucial factor in determining food insecurity, and other contextual factors related to that (i.e. economic context, income management, food acquisition, food management at home, and coping strategies).

Riches, G., ed. (1996). *First-World Hunger: Food Security and Welfare Politics*. St. Martin's Press, Inc: New York.

Key Words: food insecurity, developed countries, welfare reform.

This book operationalized the issues of food insecurity and welfare reform in a framework assessing hunger, exploring the issue of food as a human right through national case studies of Australia, Canada, New Zealand, the UK, and the U.S. Riches suggests three basic approaches for examining hunger: (1) hunger as a significant component of absolute poverty and a critical result of relative deprivation, (2) hunger as having a relationship with food security and well-being, and (3) hunger as a political problem and a basic human rights issue necessitating state intervention which goes beyond the "immediate issue of welfare". Cautioning the use of indirect indicators of hunger (i.e., food bank statistics and welfare rolls), it is also stated that within the context of high poverty rates, unemployment, and underemployment there can be no doubt of the existence of food insecurity in these five countries. Two explanations given for the increasing prevalence of food insecurity in developed countries are the changing economic context and adequacy of welfare programs in adjusting to them; and the responses, or lack thereof, by society and the state to health and welfare needs. Riches also described the Edmonton community food needs assessment as the most notable study on food insecurity in Canada to date, for recognizing the contextual and non-food related factors involved in food insecurity.

Tarasuk, Valerie; and Barbara Davis. (1996). "Responses to Food Insecurity in the Changing Canadian Welfare State." *Journal of Nutrition Education*, 28: 71-75.

Key Words: welfare state, food insecurity, Canada.

The Canadian welfare state as it has existed for most of the post-war era has been identified by universality of access and need-based eligibility, with the ultimate goal of creating an equitable and cohesive society. This system is identified as distinct from that of the United States in two ways: (1) social and health programs are matters of state interest, whereas in the U.S., private and charity models are the norm; (2) Canadian federal programs are focussed almost solely on income support, while in the U.S., state-run direct assistance programs are used (i.e. Food Stamps). In recent years, however, this has been changing, and the welfare state as it has been known is now in a state of flux and redefinition,

shifting more towards the private/charity model. As public assistance programs are eroded, an extra-governmental system of ad hoc initiatives is taking its place in providing services to those in need.

Major restructuring of social programs has resulted in tightening of eligibility requirements, lowering of assistance, increased tax burdens for low and middle-income earners and only partial indexing of assistance benefits, calling into question the existence of a true needs-based system. This period of state restructuring has been exacerbated by insecure labour markets, the changing nature of work, and shifts in family structure of towards a greater number of single-parents and elderly individuals.

As a result of the above-mentioned social trends, poverty has become increasingly prevalent in Canada, as partly evidenced by the increase in use of food banks and ad hoc community aid organizations. These organizations focus specifically on the problems and exigencies of life in a low-income situation, providing assistance to individuals in terms of food, shelter and clothing. Two specific types of aid organizations are identified by Tarasuk and Davis. Firstly, food assistance programs, or food banks; organizations which coordinate the gathering, organization and distribution of surplus food to other agencies that then distribute it to people in need. Food banks came into existence as emergency, temporary relief programs, but have become a permanent fixture in Canadian cities and may even be identified as institutionalized. Secondly, self-help or community development organizations, following a more participatory model in providing assistance by providing clients with skill in the areas of food acquisition, preparation and management. Community development skill programs such as these may consist of collective kitchens, food buying clubs, community gardens and nutrition education workshops.

Finally, the issues and implications of the existence of such an ad hoc network are discussed. The emergence of these programs as a departure from the traditional welfare state model is cited as cause for concern, for three reasons. Such a response frames food insecurity as primarily an emergency food-related problem, and although these programs are a necessary source of assistance for their clients, they fail to address the underlying poverty and structural inequality that exists. It is not to say that these issues are not recognized by program operators, but that they fall beyond the grasp of community organizations and their actions. The extra-governmental, ad hoc nature of community aid programs deters the achievement and maintenance of national standards of welfare and access to services, and contributes to the lack of recognition of poverty as a national social issue. Secondly, the provision of

services is not considered a matter of entitlement, but rather is dependent upon the availability of services in one's community, and the meeting of discretionary eligibility requirements by those in need of assistance.

Wehler, C.A., Scott, R.I., Anderson, J.J. (1995). *Community Childhood Hunger Identification Project: A Survey of Childhood Hunger in the United States.* Food Research and Action Center: Washington, D.C.

Key Words: child hunger, characteristics, assessment.

The Community Childhood Hunger Identification Project (CCHIP) investigated the issue of hunger in families with children, specifically intending to detect and document food insufficiency resulting from limited household resources. It accomplishes this through a survey instrument of 165 questions in total, with eight main questions identifying families who are hungry or at risk of hunger. A total of 5,282 households were chosen from eleven regions so as to be representative of low-income families with children under age 12. Low-income is defined as having an income at or below, 185 percent of the federal poverty line ($26,548 for a family of four, 1993).

The results of this survey confirm the critical role of income in determining food security. Two factors are crucial in determining the amount of disposable income families have access to for food; the amount of financial resources (i.e. income, food stamps), and the amount that must be paid for fixed costs such as rent and utilities. As expected, food insecure families are characterized by very low-incomes, spending a significantly large amount of income on shelter, larger on average than do food secure families. When food insecurity strikes, children are usually the last to be affected, as parents will first restrict their own food intake in hopes of protecting their children from hunger. Affected children are more likely to suffer ill health in terms of fatigue, lack of concentration, weight loss and chronic illnesses such as colds and ear-infections. In addition, children from hungry families are more likely to miss school, hence affecting their performance.

In coping with food insecurity, many households participate in food assistance programs, such as the Food Stamp Program (FSP), five of which were examined in the CCHIP. Of the participants in food assistance programs, approximately one-quarter are meeting their food requirements, while the acquisition of adequate food resources remains a problem for another 25% that are described as

'hungry' in this study. The use of emergency food programs has risen dramatically since their inception, and many families must utilize the services of several different providers to meet their needs. This suggests that although food assistance programs provide a safety net that is effective for some in meeting their basic needs, it falls short for many users in terms of preventing hunger and a more comprehensive response to food insecurity is required.

2.2 Measurement and Indicators

Anderson, S.A., Ed. (1990). "Core Indicators of Nutritional State of Difficult-To-Sample Populations." *Journal of Nutrition* 120: 1559-1600.

Key Words: measurement, hunger, food insecurity, difficult-to-sample populations.

This report was developed by the Life Sciences Research Office, Federation of American Societies for Experimental Biology (FASEB). FASEB conducts assessments of issues in the biomedical sciences using extensive literature reviews, and the scientific opinions of qualified individuals working in specified areas of biology and medicine. Members of the panel used to formulate this report represented an array of backgrounds, including food consumption, food security, nutrition, survey design, public policy, and health, allowing for a comprehensive examination of the core indicators of nutritional status. The intent of this report is to provide a source of information that will be useful in planning an approach to assessing nutritional state in difficult-to-sample populations.

Difficult-to-sample populations were defined as: (1) those covered by existing sampling frames but who were too small in number to make reliable estimates from (e.g. women who are pregnant); (2) those covered 'in principle' by existing household survey frames, but who are not adequately represented because members could not be accurately identified (e.g. alcohol abusers); and (3) those not covered in traditional household-based sampling frames (e.g. institutionalized groups and migrant workers. They concluded it was not possible to develop a comprehensive design for assessment of nutritional status for all difficult-to-sample populations and public policy purposes.

Blumberg, S., Bialostosky, K., Hamilton, W. L., Briefel, R. (1999). "The Effectiveness of a Short Form of the Household Food Security Scale." *American Journal of Public Health*, Volume 89, No. 8 1231-1234.

Key Words: food insecurity, measurement, hunger, validity.

This paper represents a joint effort between researchers from the National Center for Health Statistics, Centers for Disease Control and Prevention and Abt Associates Ltd. to create a valid short form version of the Household Food Security Scale for use when time and or financial considerations prevent use of the full scale. Based on data collected in the April 1995 Current Population Survey (CPS), 6 items primarily focusing on financial contributors to food insecurity were selected from the full scale using non-linear item analysis. Results indicate that this short form classified 97.7% of households correctly in terms of food security status, and only underestimated the prevalence of overall food insecurity and food insecurity with hunger by 0.3 percent. Results were also roughly equal for households with and without children (95.6% and 99.0% correctly classified respectively). The authors suggest that, due to these encouraging results, this short form may be potentially useful for national surveys.

This short form may not be appropriate for all populations however, specifically those that may deviate largely in composition from the 1995 CPS sample. Focusing largely (though admittedly not entirely) on financial constraints related to food insecurity ignores certain other potential involuntary limitations such as physical disability and community availability of sufficient quantities of nutritious food. The short form also combines the categories of "moderate" and "severe" hunger, so those requiring a greater level of sensitivity would best use another measure. Noting that the prevalence of food insecurity as reported by the 1995 CPS data is relatively quite low, hypothetical higher sample rates of food insecurity in combination with the short form's low sensitivity would have resulted in lower concordance.

Kendall, A., Olson, C.M., Frongillo, E.A., Jr. (1995). "Validation of the Radimer Cornell Measures of Hunger and Food Insecurity." *Journal of Nutrition*, 125: 2793-2801.

Key Words: measurement, hunger, food insecurity, validity.

Table 1: **Dimensions of food insecurity based on qualitative research by Radimer (1990)**

	Individual level	**Household level**
Quantitative	Insufficient Intake	Food depletion
Qualitative	Nutritional inadequacy	Unsuitable food
Psychological	Lack of choice, feelings of deprivation.	Food anxiety
Social	Disrupted eating patterns	Food acquisition in socially unacceptable ways.

Identifying hunger and food insecurity as critical indicators in assessing individual nutritional status necessitates the construction and subsequent validation of measures of these phenomena. This study builds upon earlier research resulting in the Radimer Cornell measures of hunger and food insecurity, and tests three areas of the measures' validity: internal consistency, construct and criterion related validity. A survey was administered to a sample of 193 households with women and children residing in rural New York State. Questions were asked pertaining to socio-demographic characteristics, fruit and vegetable consumption, household food supplies and included the Radimer Cornell measures. From the results of the survey, measures were constructed identifying households with hungry children and food insecurity at the individual and household levels.

When validity of the measures was tested, their efficacy in identifying food insecurity was confirmed. Using factor analysis to assess construct validity confirmed several aspects of the Radimer Cornell framework: hunger and food insecurity are experienced differently at the household level, the individual level has distinct adult and childhood aspects, and diet consists of two components related to the quality and quantity of food eaten. Cronbach's alpha was employed to measure internal consistency, confirming the validity of this measure. Lastly, criterion-related validity was determined by comparing the results of demographic and dietary characteristics in their relationships to food insecurity. Results showed that demographic and household dietary characteristics differed in their direction of relationship to food insecurity, while still showing significant associations. This supports the ability of the Radimer Cornell measures in identifying food insecurity among individuals and or households experiencing different degrees of food insecurity.

Radimer, K.L., Olson, C.M., Greene, J.C., Campbell, C.C., & Habicht, J-P. (1992). "Understanding Hunger and Developing Indicators To Assess It in Women and Children." *Journal of Nutritional Education*, vol. 24(1): 36S-44S.

Key Words: hunger, definitions, conceptual models, measurement.

Addressing food insecurity and hunger in developed countries is a critical issue in contemporary policy debates, and the lack of an operational definition for use in this dialogue is cited as a major barrier to progress. The aim was to develop a definition of hunger as perceived by women and to construct indicators to measure it directly in similar populations. In order to construct a definition of hunger relevant to the population under examination, interviews were conducted using a method of naturalistic inquiry with subjects purposely sampled for maximum diversity. Participants in the interviews were comprised of 32 women of childbearing age from rural and urban regions of Upstate New York.

The conceptualization of hunger that emerged from these interviews was found to have both broad and narrow dimensions. Narrowly defined, hunger is described in terms of its physical sensations and the temporal aspects of those sensations. In terms of broad definitions, a more complex picture emerges that is defined on two levels, those of the household and individual. As perceived by these women, individual hunger has four components: insufficient intake, nutritional inadequacy, psychological aspects (i.e. lack of choice and feelings of deprivation and loss of control), and social aspects (i.e. disruption of the social norm of three meals per day). The second level of hunger, that of the household, is also thought to have four components: depletion of food resources, unsuitable food options, food anxiety, and the acquisition of food in socially unacceptable ways.

Based on this information survey items were developed and evaluated, and three scales emerged for use as indicators of hunger at the household, adult and child levels. It has become clear that hunger is a fluid state experienced differently by individuals, and a process that is constantly managed as it varies over time. Although this may appear problematic from a sampling perspective, there is an identifiable sequence of stages of hunger that exist, and this serves merely to highlight the critical importance of specifying the target population and creating measures based upon their conceptualization of food insecurity.

Wolfe, Wendy S.; Olson, Christine M.; et al. (1998). "Hunger and Food Insecurity in the Elderly: Its Nature and Measurement." *Journal of Aging and Health*, 10 (3): 327-351.

Key Words: measurement, characteristics, hunger, food insecurity, elderly.

Elderly individuals have been identified as a population subgroup greatly at risk for hunger and food insecurity due to low incomes, poor health and limited mobility. Estimates of prevalence of food insecurity among elderly people range from 3.4% to 22%, depending on questions asked and the defined sampling frame. This evidences a need for effective, standardized measures to correctly assess this phenomenon and formulate effective solutions. Two steps in doing this are to understand the elderly experience of food insecurity, achieved through qualitative interviews; and to evaluate the efficacy of existing questionnaires in measuring this experience.

The current study conducted interviews with 41 elderly persons in rural and urban locations and then compared food insecurity status based on the interview with that determined through quantitative measures. Five measures were tested: the Radimer Cornell, Community Childhood Hunger Identification Project (CCHIP), Nutrition Screening Initiative (NSI), United States Department of Agriculture food sufficiency and Urban Institute. All five measures showed reasonable specificity and effectiveness in identifying those in the most severe stages of food insecurity, however, the Radimer Cornell, CCHIP and NSI exhibited greater sensitivity in identifying those in lesser stages of insecurity.

The descriptions of food insecurity given by elderly respondents suggest that their experience is one of a progression of severity. It is not simply a categorical division between being "food secure," or "food insecure," but is characterized by a continuum along which an individual may pass in either direction at any given time. This progression is similar to that found for other subgroups, and identification of the stages involved may be beneficial in determining effects of contextual changes and risk factors on future stages of food insecurity.

Tarasuk, Valerie. (2001). *Discussion Paper on Household and Individual Food Insecurity*. Paper prepared for the Office of Nutrition Policy and Promotion, Health Canada.

The author points out that food insecurity is a broad concept, including issues regarding the nature, quality and security of food supply and access. The term food insecurity meant the limited, inadequate or insecure access of individuals and households to sufficient, safe, nutritious, personally acceptable food both in quality and quantity to meet their dietary requirements for a healthy and productive life. Tarasuk notes four key elements: 1) Food insecurity is experienced at the household and individual levels in different ways. Whereas the individual relates to issues of food consumption and allocation and includes the sensation of hunger, the households deals with the food supply management, acquisition and allocation. 2) The experience of food insecurity is dynamic based on a temporal sequence of events and experiences that can be considered in terms of frequency, duration and periodicity. 3) The sequence of stages are related to graded levels of severity, ranging from qualitative compromises in food consumption to quantitative reduction of intake as resources are depleted. Hunger is the most severe stage. Households manage the events in the process and the compromises they make describes their pathway to food insecurity. 4) Within households, individual experiences of food insecurity differ. Adults tend to minimize the impact on children by foregoing their on consumption of food. Direct and indirect indicators of food insecurity that could contribute to a nutrition monitoring system at the individual and household level was the major objective of the paper.

2.3 Characteristics of Food Insecure Individuals and Their Experience

Andrews, M., Nord, M., Bickel, G. and Carlson, S. (2000). *Household Food Security in the United States, 1999*. Food Assistance and Nutritional Report No. 8. U.S. Department of Agriculture.

Key words: Food security, food insecurity, hunger.

This report, published by the Food and Rural Economics Division of the U.S. Department of Agriculture, examined both prevalence of food security and hunger in 1999 and trends in food security in the United States between 1995 and 1999. In the twelve months preceding April 1999, approximately 10.1% of American Households experienced some degree of food insecurity due to inadequate resources, and a further 10% of these households had at least one individual reporting hunger. Data was collected by the Food Security Supplements to the Current Population Survey

between 1995 and 1999, though it is noteworthy that due to a change in survey administration after 1997, two different data editing protocols were used in the report. The patterns of a given household's responses on certain behavioural and household conditions allowed them to be classified into one of three categories (food secure, food insecure and food insecure with hunger).

In general, both food insecurity and food insecurity with hunger declined between 1995 and 1999, despite the existence of significant increases in both 1996 and 1998. The incidence of food insecurity also declined across all household types, particularly in the case of female-headed households with children, Hispanic households and urban households. However, for households with income between 50 and 130% of the poverty line, the percentage of food insecure households increased. The trends for food insecurity with hunger were similar, although among low income households, the prevalence of hunger declined even in the face of increasing prevalence of food insecurity.

Looking specifically at the 1999 data, the authors note many discrepancies traditionally demonstrated in food security levels between various groups (e.g. income, ethnicity, geography). For instance, households with children generally experience twice the prevalence of food insecurity as those without (14.8% v. 7.4%) and food insecurity is six times as evident, and hunger eight times as prevalent, within households having an annual income below 185% of the poverty line than those above it. Further, as has been frequently noted in the literature, households facing multiple risk factors are particularly more likely to experience food insecurity.

The authors conclude the report by discussing several limitations to their method. For example, though food insecurity and hunger are thought to be a result of insufficient household resources, many factors that might affect a household's food security (e.g. job loss, divorce) are not taken into account by annual income measures alone. Finally, the authors note that, due to certain methodological and data analytic issues, their results may not be the most valid estimate of children directly experiencing hunger, but instead perhaps may represent an upper bound for this number. Ongoing analyses may be able to refine these estimates in future reports.

Canadian Association of Food Banks. (1998). *HungerCount 98*.
http://www.icomm.ca/cafb/hunger_count.html.

Key words: food banks, household income sources, provincial and regional comparison.

HungerCount 98 is a survey conducted by the Canadian Association of Food Banks (CAFB) which main purpose is to document the usage of food banks nationwide. CAFB is a national coalition of organizations which gathers and distributes food to people in need through member food banks. It also serves as a liaison between food banks, industry and governments. Funding is derived from a large variety of sources, from Procter & Gamble to Campbell's Soup. These results represent data collected in 1998 from 394 food banks (63% of the 625 contacted), with data from an additional 68 food banks being estimated by provincial co-ordinators. As some of these food banks are often hubs for a number of member agencies affiliates, CASF reports the total number of food banks assessed (including these additional agencies) to be 2,141.

The survey reports that in March of 1998, 716,496 people (2.4% of total population) were assisted with food hampers, a figure that had increased by 5.4% from the previous year, and 118% since 1989. 27.6% of the increase is accounted for by Eastern provinces. Inter-provincial variations in usage were reflective of unemployment –the greater the unemployment rate, the greater the rate of food bank use (exception: Manitoba and New Brunswick, which saw the opposite effect). Though children represent approximately one-quarter of Canada's population, 41.5% of food recipients in Canada were children. Only two provinces territories average more than 2 children per household receiving assistance, while the average household varied between 2 and 3 persons, which all suggests a relatively large proportion of families with 1 or 2 children (particularly single parents). For most families receiving assistance from grocery programs, social assistance is the main source of income, while only 10% of assisted families received employment income (the "working poor"). It should be noted that grocery programs, only capable of providing limited assistance at best, are not an appropriate substitute for policy reform in abating the prevalence of hunger.

Geographically, rates of food bank use tended to decline from east to west. Food bank use may be impeded in northern regions, such as the territories, by low population density and decreased urbanization. The 5.4% overall growth in people assisted may be due to factors such as the comparable increase in available food banks (5.2%). However, the fact that increased use in some areas, such as

Nova Scotia, often far outstripped growth in availability indicates that the increase in food bank usage may be also driven by deteriorating levels of livelihood.

Two trends were noted. The first is the over-representation of children, suggesting that those most vulnerable to the adverse cognitive and developmental effects are experiencing food insecurity. The second is that even in a period of general economic growth, hunger throughout Canada continues to increase.

Castner, L., Rosso, R. (2000). *Characteristics of Food Stamp Households, Fiscal Year 1998.* Mathematica Inc.: Washington, D.C. http: www.fns.usda.gov oane menu published fsp FILES char98.pdf

Key words: Food stamp program, poverty, demographics.

Using household data collected by the U.S. Department of Agriculture's Food and Nutrition Services for quality control purposes, the authors document some of the participation and cost figures of the Food Stamp Program (FSP), as well as some of the characteristics of participant families.

Castner and Rosso report that in the average month of the fiscal year 1998, 19.8 million people living in 8.2 million households received benefits from the FSP, each household receiving an average of $165 per month in food stamp benefits. The total cost for the program was $18.9 billion for the year, of which $16.9 billion was for food stamp benefits. In comparison with the previous fiscal year, level of FSP participation had declined by 13%, and FSP benefit costs by 14%. However, it is likely that an increased stringency in eligibility requirements, rather than an actual reduction in food in security, was responsible for these declines.

The following characteristics of families participating in FSP were included among those reported for fiscal 1998: slightly over half of participants were children, 39% non-elderly adults and 8% elderly; more than 2/3 of adults were women; more than 90% of FSP households lived in poverty; FSP benefits were concentrated among poorer households – 37% of households had income less than or equal to half of poverty guidelines, while these households received 57% of benefits; 88% of food stamp households contained either a child (58%), or an elderly (18%) or disabled person (24%); 68% of households with children receiving FSP benefits were led by a single parent, and the majority of these (58%) received

support from the Temporary Assistance for Needy Families (TANF); only 39% of households with children received earned income; 34% of single parent and 56% of multiple adult households had earnings.; when calculated in financial terms as gross income, the provision of food stamps helped move 7% of recipient families above the poverty line, and increased 21% of the poorest families to within 50% of poverty indicators. This research highlights the characteristics of individuals who rely on in-kind assistance provided by the food stamp program but generalization to Canadians experiencing food insecurity is not possible.

Cohen, B., Olhs, J., Andrews, M., Ponza, M., Moreno, L., Zambowski, A., Cohen, R. (1999). *Food Stand Participants' Food Security and Nutrient Availability: Final Report.* Mathematica Inc: Princeton NJ.http: www.fns.usda.gov oane menu published fsp FILES nutrient.pdf.

Key Words: food security, Food Stamp Program (FSP), nutrient availability.

The Food and Nutrition Service (FNS) of the U.S. Department of Agriculture, which administers the nation's Food Stamp Progam (FSP) commissioned Mathematica Policy Research Inc. to conduct the National Food Stamp Program Survey (NFSPS). The purpose of this research was to assess the levels of food security of FSP participants, as well as the possible relationship between nutrient availability and food security. Degree of food security was measured using an 18 item set of questions developed by Hamilton et al (1997). Data was collected between June 1996 and January 1997 from FSP participants, as well as those not receiving who are FSP-eligible or near eligible. Some important limitations should be noted however, including: only individuals with telephones were surveyed; the accuracy of non participant eligibility determinations was only approximate; lag time between data collection and participant sampling may have led to an overrepresentation of long-term participants, as many short term participants had dropped off of FSP by the time they were contacted, and were not included.

After examining the survey data, the authors report that, on a national level, 50% of FSP participants experience food insecurity to varying degrees, including 5% classified as being food insecure with severe hunger. Lack of financial resources was cited as the primary impediment, and FSP participants reported lower incomes than either the FSP-eligible or near eligible groups. Surprisingly, the average nutrient availability exceeded Recommended Dietary Allowances (RDA) for the key nutrients examined.

Despite this, the authors indicate it must be noted that substantial percentages of houses still have nutrient availability below their Recommended Dietary Allowances. Relationships between food security and variables measuring access to food stores were generally quite weak. A relatively strong relationship was found between food security and access to a car, but this may be reflective of an individual's financial situation. This goes in some degree of contrast to reports from rural settings which report physical access barriers as significant impediments. Another surprising report was that level of food security may be negatively associated with nutrient availability. Several possible explanations for this are offered. This research may be possibly useful in a roughly complimentary role to the previously cited work by Castner and Rosso (2000) which provides a basic demographic picture of FSP participants (though from a more recent data set), but does not directly address food insecurity levels.

Daponte, Beth Osborne. (1996). *Private Versus Public Relief: Utilization of Food Pantries Versus Food Stamps Among Poor Households in Allegheny County, Pennsylvania.* Discussion Paper no. 1091-96, Institute for Research on Poverty, University of Madison-Wisconsin.

Key Words: food insecurity, coping mechanisms, public, private.

Individuals living in a state of food insecurity use many coping strategies to meet their nutritional needs and stave off hunger, and different organizations play a role in this decision. Options for food assistance fall into either the public or private category, and these researchers have studied the factors influencing what assistance choices poor families make in order to meet their needs, as well as the efficacy of aid organizations in combating food insecurity.

The 1993 Food Distribution Research Project sampled low-income families in Allegheny County, and households were screened out based on poverty level for use in this study. When analyses were conducted so as to ascertain household attitudes toward assistance seeking and preferences regarding public or private organizations, several trends emerged. The non-elderly grouping preferred the Food Stamp Program to private community organizations for meeting their food needs. The FSP provides greater flexibility in terms of food choices, and higher value and certainty of benefits; these are possible reasons for this preference. Food insecure elderly persons, however, made greater use of food pantries, for several possible reasons. The informal nature of community organizations may lend itself more to being perceived as "giving a little extra help" in tight times as opposed to receiving government aid.

hence being more appealing. As well, the assets of elderly people may exceed the level allowed by the FSP to receive benefits. Poor families with children were found to use both assistance networks, likely because Food Stamps become exhausted near the end of the month and food banks must be visited as a supplementary source of food aid.

In assessing the efficacy of food assistance programs in preventing food insecurity and ameliorating its effects, it is unfortunate that longitudinal research is not available, as only the degrees of insecurity can be measured and the characteristics of families experiencing them, not the outcomes of particular variables. Children were assessed anthropometrically, although these measures were based on self-report and hence subject to a high margin of error. It was found that children whose parents received food assistance were more likely to be anthropometric outliers than those who were not, with a tendency toward obesity. In addition, household subjective perceptions of food insecurity were measured, and an index was created. Households participating in food assistance programs reported a greater degree of insecurity than those who did not, and it may be assumed that food aid is not completely effective in lessening the burden of food insecurity. Those reporting the greatest insecurity included families with children, single persons, and blacks, while the elderly reported the least food insecurity.

Self-reported food insecurity status exists in poor families that use food assistance as well as those that do not, calling into question the actual impact of food outreach programs. This raises some concerns related to the effectiveness of food assistance programs in meeting the needs of people experiencing food insecurity, and what measures must be taken to mitigate its effects. Nutritional consequences of food insecurity are well-established, however there are other, more indirect, but nonetheless important outcomes. Chronic illness, child mal-development or under-development, and hence diminished social well being and productivity are serious potential results of food insecurity and serious cause for action.

Davis, Carlton G. (1994). "Domestic Food Programs, Hunger and Undernutrition in Rural America: How Secure is the Safety Net?" *Review of Black Political Economy*, 22 (4): 179-203.

Key Words: definitions conceptual models, food assistance, rural poor.

Conducting a literature review of empirical research on the effectiveness and distributional impacts of food assistance programs in rural America, Davis argues that food programs are an effective safety net only when used in conjunction with other programs that increase the effective demand for food by increasing employment. In order to provide a contextual framework for other, future discussions on this issue, focus is placed on the relationship nexus occurring between household income, food consumption and nutrient consumption.

First, factors related to household food and nutrient consumption are addressed in three sections. Income level is cited as a major factor, although a distinction is made between income-food expenditure and income-nutrient consumption relationships. Although income level has consistently been found to have a positive correlation with food expenditure, in some studies an increase in income has been correlated with the purchase of less nutritious foods. This may be the case where as income increases, the percent allocation to high-cost luxury foods increases, while the percent of income spent on staple goods decreases as a proportion of income. Domestic food assistance programs, particularly the Food Stamp Program (FSP), are identified as the main mechanism of the food safety net and the FSP has been found to have a positive effect on food expenditure, nutritional status, food energy and nutrient consumption. The education level of female heads of households also is positively correlated with food expenditures and nutrient consumption. Lastly, family size may have a positive effect on food expenditure, while negatively influencing nutrient consumption.

Changing family structures and the rise of single-parent families are also exacerbating any trends towards food insecurity and poverty that may be emerging. In rural areas this trend is not as strong, and may serve to moderate and or delay these effects, as two-parent families are more the norm, and single-parenting and solitary living are less common. Although this is true for most rural residents, those who do live in single-parent families may be worse off than their urban counterparts due to greater overall economic hardship.

Data was then examined pertaining to the characteristics of rural society and the ways that they may structure food security. In rural regions, the incidence of poverty is not only greater than that found in urban areas, but is also typified by different socio-demographic trends. Rural communities are much more likely to be populated by two-parent families, and residents, although poor, are more likely to

have a job and be "working poor" than to be receiving social assistance. The rural poor are also comprised of a greater proportion of the elderly, of whites and have lower education levels than their urban counterparts. In rural regions the non-participation rate of FSP eligible persons is lower than that in urban centres, and the mean per capita FSP bonus was $368 per month for the urban poor, and $222 per month for rural residents in the mid-1980's. In terms of food insecurity and hunger, the rural poor are significantly worse off than those living in poverty in urban areas. As such, Davis cites a need for different policies to be formulated, targeting this distinct population.

Frongillo Jr., Edward A. and Lee, Jung Sun. (2001). "Food Insecurity Among the U.S. Elderly." *Poverty Research News*, Vol 5(2) 12-13.

Key words: food insecurity, elderly, national survey, effect of food programs.

Research on food security has traditionally focused on young adults and children, often has overlooked the elderly, who may face unique challenges. Using data from the Third National Health and Nutrition Examination Survey (NHANES III), the Nutritional Survey of the Elderly in New York State (NSENY) and, to a lesser extent, the Longitudinal Study of Aging, the authors have analyzed the issue of food insecurity as faced by elderly individuals. This article was based on a working research paper.

Approximately 2% of elderly persons sampled were found to be food insecure. Prevalence increased dramatically if an individual is a member of one, or particularly when a member of more than one, high risk groups (e.g. social isolation, minority). In addition to difficulties obtaining food due to insufficient financial resources, a major contributor to food insecurity in the elderly is an inability to prepare or eat the food available due to functional impairments. Further to this point, the authors found that limited ability to use food had an independent association with food insecurity, regardless of its availability in the household – thus demonstrating that food security in the elderly is more complex of an issue than simply one of lack of access.

When looking at health issues in the elderly, it is often difficult to distinguish which problems are a result of the natural aging process and which are the result of food insecurity. The authors believe, regardless of this potential confound, the elderly generally consume far less than their Recommended Dietary

Allowances of specific nutrient groups. This deficiency is particularly pronounced in food insecure elderly.

The Food Stamp program and Elderly Nutrition Program have become America's primary sources of food assistance for the elderly. Though acknowledging that their effectiveness is difficult to evaluate, the authors report that participation in food assistance programs was not related to improved nutrient intake, nor was it found to be improving the health of the most vulnerable elderly. Finally, the authors document various policy and research implications of their results. Firstly, that the issue of functional impairments needs to be more fully examined. Secondly, that more attention by food assistance programs is needed towards ensuring adequate nutrition levels in the elderly are maintained. Thirdly, that more research is needed in the area of program evaluation, to ensure the impact of food assistance participation is accurately assessed.

Quandt, Sara A., and Pamela Rao (1999). "Hunger and Food Security Among Older Adults in a Rural Community." *Human Organization*, Vol. 58(1): 28-35.

Key words: food insecurity, nutrition, nutrition policy, rural elderly, poverty.

Elderly individuals are recognized as being particularly vulnerable to the ill effects associated with food insecurity and malnutrition. Despite this, relatively little systematic research focusing on food security in the elderly exists, and even less on rural elderly in particular. Rural individuals may face unique barriers to food security arising from different life experiences and environmental characteristics associated with rural living. This study, funded through the Urban Institute and the University of Kentucky Research Committee, examines the levels and predictors of food insecurity in a sample of 192 rural Appalachian seniors (65 and older). Data was taken from a larger survey on hunger and the elderly commissioned by the Urban Institute in 1993.

The study concentrates on three categories of barriers thought to be risk factors associated with increased food insecurity: material (low income); social (limited social networks); health. As this research is intended to direct policy change, the focus was on barriers that are more malleable, as opposed to more inflexible socio-demographic factors (age). Results indicate that 24% of individuals reported at least one food insecurity indicator, while 10% reported two or more. The most commonly

reported indicator was taking personal actions within the last 6 months to cope with not having enough food to eat. Participation in government sponsored nutrition programs was particularly low – only 4% reported any regular involvement, and only the food stamp program showed greater participation for individuals who reported food insecurity as opposed to those who did not. All of the proposed barriers had significant relationships with food insecurity. The three strongest predictors of food insecurity were income at 150% of poverty level or less (material), taking 3 or more prescription drugs (health), and eating alone (social).

Quandt and Rao feel that specific factors associated with living in rural areas may have had direct influence on the identified barriers. Many males had spent their lives employed in the resource harvesting industry (mining, forestry), occupations which had seen long periods of unemployment and seasonal layoffs, and which typically lack pension benefits. Income from other assets, such as investments and real estate, was also particularly lacking. Outward migration of young people due to high unemployment rates may have helped erode social networks. Finally, the low participation of government funded programs may be due to a variety of factors, including a greatly dispersed population and difficulty in access due to lack of available resources to purchase transportation, rough terrain and harsh climate. Clearly, there is a need for specific policy initiatives to address concerns unique to individuals in these conditions.

Rose, Donald; and Victor Oliveira. (1997). "Nutrient Intakes of Individuals from Food-Insufficient Households in the United States." *American Journal of Public Health*, 87 (12): 1956-1961.

Key Words: assessment, nutrients, food-insufficiency.

Rose and Oliveira aim to create a greater understanding of the relationship between food insecurity and nutrient intake for three at-risk groups: pre-schoolers, adult women and elderly people. Using data from the Continuing Survey of Food Intake by Individuals (CSFII), a nationally representative data set, sub-samples were drawn of 1379 pre-schoolers, 3764 adult women, and 2215 elderly people. Dietary nutrient intake was assessed with an in-home interview regarding food consumption over the previous 24 hours. Respondents were then screened into one of two groups based on their agreement with the following statements: (1) "Enough of the kinds of food we want to eat"; (2) "Enough, but not always what we want to eat"; (3) "Sometimes not enough to eat"; (4) "Often not enough to eat." Those

households that agreed with either of the last two statements were considered food insufficient, and any others food sufficient. Further information was then obtained regarding socio-demographic and economic variables.

When statistical analyses were performed, it was found that those who were food insufficient had lower incomes, education and were more likely to live in households headed by a single adult. The strongest association found between food insufficiency and nutrient intake was for the elderly group, as elderly food insufficient persons were found to consume a mean of 58% of the recommended daily energy intake, hence consuming less than the Recommended Dietary Allowances for many nutrients. Food insufficient adult women were said to be approximately 1.4 times more likely than their food sufficient counterparts to consume less than 50% of the recommended energy intake, and were below two-thirds of the Recommended Dietary Allowances for six nutrients. Results for pre-schoolers were the least definitive, and there were no strong associations found between food insufficiency and reduced intake for this group. A plausible reason for this may be that in families where food insecurity is an issue, mothers go hungry in order to ensure adequate nutrition for their children.

The authors also raise the question as to whether or not self-report measurements of hunger are valid, and their answer appears to be "yes." As public resources are shrinking, detailed, expensive surveys are not as feasible to conduct as they once were. In light of this they claim that the credibility of quick and simple measures, such as self-report surveys, become critical in assessing food insecurity.

Starkey, L.J.; H.V. Kuhnlein; K. Gray-Donald. (1998). "Food Bank Users: Sociodemographic and Nutritional Characteristics." *Canadian Medical Association Journal*. 158 (9): 1143-1149.

Key Words: definitions conceptual models, food assistance, sociodemographics, nutrition.

Since their introduction in the 1980's, private food assistance agencies, or food banks, have become pervasive features of society. As such, these authors aim to examine the socio-demographic and nutritional characteristics of people relying on this service. A survey was conducted of 490 clients served by 57 food banks in urban Montreal. Subjects were distributed equally between genders, with a mean age of 41 years, and an overall range of 18 to 85 years. Data was obtained through personal interviews, consisting of two components: socio-demographic characteristics, and a 24-hour dietary

recall. Participants were surveyed regarding their ethnic origin, language, education, age and sex of household members fed, health and income status. The dietary recall component posed questions related to food intake, cigarettes, alcohol and use of food assistance programs over the last 24 hours.

Most participants reported themselves to be in good health, although the overall mean body mass index (BMI) score exceeds the upper limit of the recommended healthy range, particularly for clients over age 50. Of the 126 people reporting health problems or conditions, the most common were chronic physical conditions (back, eye, ear problems). This was followed by medical problems, (high blood pressure, diabetes, cancer) psychological problems, dietary concerns and other.

The 490 participants represented households responsible for feeding a total of 1170 people, with a mean household size of 2.4. Approximately one-third (30.4%) of these were under 18 years of age, again one-third of which were children of single parents. The principal source of income was social assistance, and only 2.6% of people participated in paid employment. For those employed, incomes were still extremely low, and these individuals may be said to represent the "working poor." Mean monthly household income for families in this study was approximately $900, well below the low-income cut-off point of $1816, although nearly half of the men and 27.4% of the women in the sample had completed post-secondary education.

Of the number of people seeking food assistance, one-third were frequent users, while 14.7% were first-time food bank clients. Most of the respondents (85.1%) cited not enough money after paying other bill as the reason for patronizing food banks. Results of the survey also indicate that the likelihood of men and women using food banks is roughly the same.

Income from social assistance is below the level required for these families to meet their basic needs, and hence they must frequent food banks to fulfill their nutritional requirements. The frequency with which subjects are using food banks further entrenches their presence in communities, no longer as emergency response providers, but as necessary, permanent fixtures. The large number of working-age users living in a state of potential food insecurity is also a critical point of note for the concerns that it may raise regarding labour force productivity, human and social capital. Lastly, it is interesting that a

concentration of those traditionally associated with food insecurity (the very young, elderly, single parents) did not arise, and it is possible that they are perhaps seeking assistance through other channels.

Wilde, Parke; and Christine Ranney. (1998). *A Monthly Cycle in Food Expenditure and Intake by Participants in the U.S. Food Stamp Program.* Discussion Paper no. 1163-98. Institute for Research on Poverty, University of Madison-Wisconsin.

Key Words: food expenditure, food intake, Food Stamp Program.

Food insecure individuals and those participating in social assistance programs often consume food unevenly over time. These authors aim to study the monthly cycles in food expenditure and intake by Food Stamp recipients and their implications for research and policy related to food insecurity and the efficacy of the Food Stamp Program (FSP). Employing data from two nationally representative surveys, the Diary of Consumer Expenditure Survey (CEX) and the Continuing Survey of Food Intake by Individuals (CSFII), the different monthly cycles for various groups were studied.

The overall pattern of expenditure and intake that these individuals engage in is characterized by a sharp peak in the three days after receipt of benefits, in this case, Food Stamps, and a decline towards the end of the month. Little variation in spending patterns was found, but when food intake was examined, several notable differences emerged. Recipients of Aid for Families with Dependent Children (AFDC) had a fairly constant intake over the month, versus non-recipients who receive lower FSP benefits, and exhibited a sharp drop in food intake in the last week. Based on head-of-household, it was discovered that single-female-headed households experienced little fluctuation in food intake, two-person (presumably couples) households moderate fluctuations, and male-headed households the greatest variation in intake over the month. Regarding shopping frequency, recipients of Food Stamps made major trips once a month or less, a behaviour that was associated with greater fluctuations in food intake. This may reflect barriers to shopping that low-income individuals face related to transportation, and food storage. When comparing families with and without children, significant inter- and intra-family variation appeared. Of all groups, children's intake was the highest relative to recommended daily allowances, while parents were shown to absorb the majority of food level fluctuations, presumably to prevent their offspring from nutritional inadequacy.

Several research and policy implications stemming from this study are discussed. Noting the monthly variation in food expenditure and intake raises the issue of how this cycle may be smoothed out. Although the Food Stamp Program is a distinctly American creation, the findings discussed here may be extrapolated and considered in a Canadian context regarding individuals receiving social assistance and their patterns of food management over the month. The nutritional consequences of food intake fluctuations may be an important issue for parent health, child development and hence the quality of human capital.

Daily Food Bank. (1996, September). *Can Welfare Recipients Pay Rent and Eat Too? A Comparison of Shelter Allowances and Spending on Accommodation Among Welfare Recipients Served by Food Banks in Toronto.* Daily Bread Food Bank: Toronto.

Key Words: welfare reform, welfare benefits, food insecurity.

In 1995, General Welfare Assistance (GWA) was reduced by 21.6% in the province of Ontario, with major consequences for the lives of recipients. This resulted in many being forced to dip into their basic living allowance in order to pay their rent, the occurrence of which is the subject of this study. The Daily Bread Food Bank conducts a survey of food assistance recipients on an annual basis by interviewing patrons at neighbourhood and community food banks in the Greater Toronto Area. Their findings suggest that by the spring of 1996, 66% of single persons receiving GWA were paying rent in excess of the maximum shelter allowance, up from 43% in 1995. This trend was also noted among single parents and couples with one or two children, 50% and 75% of which respectively paid rent in excess of the shelter allowance.

As people are forced to obtain accommodation with costs in excess of resources, money was withdrawn from their food budget to meet rent obligations, hence diminishing their ability to finance other basic necessities. The calibration of social assistance to economic costs is of critical importance to avoid food insecurity and to safeguard the welfare and health of recipients and their children. The capacity of adults to seek employment may also be diminished through compromised health status.

Daily Bread Food Bank. (1996, October). Who Goes Hungry? *A Profile of Food Recipients in the GTA Served by Member Agencies of the Daily Bread Food Bank.* Daily Bread Food Bank: Toronto.

Key Words: food banks, patrons, characteristics.

Based upon the 1996 Daily Bread Food Bank survey of 900 food bank users in the Greater Toronto Area, this report identified factors placing individuals at risk for hunger and policy implications stemming from the findings. Factors specified as contributing to being at risk for hunger were as follows: being between the ages of 25 and 49, female, single, supporting children, a child (more than twice the risk of adults), lacking a high school diploma, unemployed, on some form of social assistance, having rent that exceeds the social assistance shelter limit, and the use of coping strategies to stretch the budget.

The authors assert that programs aimed at addressing the needs of children must address the needs of all families with children and their members, as for children to grow and develop properly they need nurturing on many levels, including good parenting which requires food security for all family members. Secondly, under current welfare regulations two parent families face economic disincentives and this must be changed to encourage families to stay together. Third, employment must be available for assistance recipients to make a successful, permanent transition into labour force participation, as many food bank clients are well educated, but still unemployed. Affordable housing must also be available. Typically, rent absorbs 50-60% of food recipients' income, leaving insufficient funds for other needs. Alternately, shelter benefits must be adjusted to reflect true housing market prices. Lastly, the reliance on the non-profit and charitable sector is insufficient.

2.4 Factors Influencing Food Insecurity

Daily Bread Food Bank. (1996, June). *Toronto's Hungry Children: The Impact of Welfare Reductions on Children in the Greater Toronto Area.* Daily Bread Food Bank: Toronto.

Key Words: food insecurity, hunger, children, welfare.

Since the 1995 reduction in General Welfare Assistance (GWA) benefits in Ontario, there has been a marked increase in the number of families appealing to food banks in the Greater Toronto Area (GTA) for assistance. The Daily Bread Food Bank, a local, non-profit organization in the GTA aims to document this trend and, more specifically, its impacts on children. Overall, the number of people patronizing food banks has risen dramatically over the period 1995-1996, concurrent with reductions in

GWA benefits. Consequently, the number of children living in families requiring food bank assistance also rose, exhibiting an estimated 65% increase over one year.

The Daily Bread Food Bank estimated that in 1995 11% of food bank children went hungry at least once a week, a number that rose to 16% in 1996. As children are often last to experience hunger in food insecure households, these estimates are potentially indicative of extreme levels of deprivation within this population. The temporal aspects of the increase of food insecurity as it is concurrent with cuts to social assistance payments implies a direct link between increasing insecurity and benefit reductions, making this a potential topic to be considered in policy and program formation.

Daily Bread Food Bank. (1997, March). *The Difference a Job Makes: Hunger Among Working and Unemployed People Served by Food Banks.* Daily Bread Food Bank: Toronto.

Key Words: hunger, food insecurity, income, employment.

Using the results of the Daily Bread's 1996 survey of food recipients in the Greater Toronto Area, this report examined the situations of unemployed food recipients and those engaged in full-time and part-time work. Though hunger was present among all three groups, it was increasingly widespread among those who were employed part time or unemployed. It was estimated that approximately 2.9% of food recipients were employed full-time, 7.7% part-time, and over half of all recipients were self-described as unemployed. Of those individuals employed full-time and unemployed, approximately 15% had graduated from college or university, and over one-third of part-time employees had also done so. Although employment and formal education are often correlated with increased food security, this data indicates that the relationship may be inconsistent in its application.

Variation among the groups in terms of hunger was also found to be consistent with differences based on income and shelter expenditure. Although food recipients are generally characterized by having low incomes, many of who receive social assistance, those employed full-time earn considerably more and hence experience less food insecurity. Accordingly, full-time workers also spend a smaller proportion of their monthly income on shelter, increasing the amount of disposable income available for expenditure on food, which ultimately may reduce the likelihood of their being food insecure. This research asserts the critical nature of income as a factor in the economic context affecting the likelihood of an individual becoming food insecure, thus identifying income security as a prerequisite for food security.

Mauldon, J. (1996, October). *Predicting Hunger and Overcrowding: How Much Difference Does Income Make?* Discussion Papers no. 1114-96, Institute for Research on Poverty, University of Madison-Wisconsin.

Key Words: hunger, poverty, indicators, validity.

A study involving telephone interviews of 2214 adults receiving AFDC in Los Angeles, San Bernardino, Alameda, and San Joaquin counties was conducted to examine the issues of hunger and overcrowding, and the validity of income as an indicator of deprivation. Hunger was defined as not having enough to eat at some point in the past 12 months because of a lack of money. Four main problems with using income as an indicator of material hardship (i.e. hunger) were discussed: 1) use of gross income; 2) sensitivity of estimates of the size of poverty population to the accounting period selected (e.g. shorter periods typically produce greater numbers of people experiencing poverty); 3) poverty status as a calculation of households, thus making the assumption that all members of the household have equal access to resources; and 4) the establishment of poverty threshold based upon an absolute measure of poverty created in 1967, which is indexed for yearly changes in prices, but not for changes in patterns of consumption or in the overall increase in the standard of living. Although income and poverty status are factors involved in hunger, the authors maintained that they are poor indicators when used on their own. The most effective method to ascertain levels of hunger, they claim, is to ask people directly about their experiences.

Olson, C.M., Rauschenback, B.S., Frongillo, E.A., Jr., & Kendall, A. (1996, September). *Factors Contributing to Household Food Insecurity in a Rural Upstate New York County*. Discussion Papers no. 1107-96, Institute for Research on Poverty, University of Madison-Wisconsin.

A sample of approximately 200 women with children in their households in rural upstate New York was used to examine food insecurity. Two independent measures of food insecurity were employed: household food supplies and the Radimer Cornell measure, as it had been previously validated. Significant variables involved in food insecurity were identified as the following: low income, low educational level, single head of household, renting a home, six or more people in the household, and minority race or ethnicity. Thus, in designing a research framework from which to study food insecurity, it is critical to recognize multiple socio-demographic and contextual factors as determinants for individual and household risk for food insecurity.

3. A Research Framework for the Lack of Food Security

3.1 Introduction

This research framework examines the issue of lack of food security from the perspective of Human Resources Development Canada. While larger contextual issues such as the national and local food security, rights to food, commodification of food, market failure in the provision of nutrition, community and institutional food infrastructure, changes in culinary culture are not specifically considered, they are recognized as contextual factors.

This study is about insecurity – regarding food insecurity as an extreme manifestation of personal and household insecurity. Applied Research Branch has also studied other types of insecurity, such as job insecurity and income insecurity.

This framework provides a structure for studying the lack of food security and the relationship between variables. Based on the framework, potential questions drawn from other surveys are suggested for a supplement to the National Population Health Survey. The Applied Research Branch worked with Statistics Canada to finalize the questions for the supplement.

3.1.1 Old problems in new contexts

The distinguishing characteristic of first world countries is growing prosperity widely shared among its population, as evidenced by good housing, health, education and prospects for individuals. In the post-war years, these countries strove to guarantee a basic standard of food, shelter, and income through economic and social welfare policies; and, by the sixties and seventies, much headway had been made in eliminating poverty. However, the affluent industrialized countries are currently undergoing transformation due to major shifts to globalized economies based on information. Governments, including Canada, have undertaken major social policy reform. In recent years, significant social issues such as homelessness and lack of food have re-appeared. These problems are particularly vexing for countries such as Canada, which have sufficient food and housing stocks and which have retained safety net policies.

Issues of food revolve around both availability and access (See definition by Anderson below). . Food availability is linked with the production and distribution of food resulting in food that is present to be acquired. While there may be problems in local and national food supply in Canada, they are not the focus of this study. Food access, on the other hand, is related to the process of consumption by individuals and households. It involves having sufficient financial resources to acquire food at market prices, being able to travel to places where food is sold and being able to store food until use. The intention of focusing solely on access does not imply that solutions for such problems lie with individuals but to examine the problem from the perspective of individuals for policy purposes.

What causes households to be not food secure in the new context? Old assumptions regarding the reasons for lack food security continue to persist. The problem of lack of food tends to be oversimplified as exclusively poor income management, either in terms of acquiring income or in budgeting resources, and are, therefore, generally addressed by income security programs, with mixed success. There are indications that households experiencing food insecurity had arrived at this situation through different paths. They would therefore rely on different coping strategies. If this was the case, then the policy response has to be more diverse also. The lack of food security is a symptom of unsuccessful responses to changes in context which results in a combination of disadvantage in terms of income, health, employability and expectations which characterize extreme manifestations of poverty rather than just the lack of income. It is essential to develop a realistic understanding of the lack of food security, and the potential of levers available for government and non-government action.

This research framework provides a backdrop for discussion regarding data collection, linkages and research and policy development. The intention is to develop indicators of the problem, recognizing the interaction between people and their context, but focusing on consumption. This discussion paper and the framework was revised after an extensive public review. The components of the framework are discussed in greater detail below. For each section policy and research issues are identified. From a review of questions used in previous studies, the suggested question or series of questions used for discussions with Statistics Canada, is also given.

A module on food insecurity was added to the National Population Health Survey in 1998. It is not an ideal vehicle and not all data requirements can be met, however, it has many advantages.

3.1.2 Consequences of not being food secure in "food rich" countries

A key reason for examining the various experiences of those not food secure, is to identify those vulnerable and at-risk populations for the development of adequate preventive and supportive policy measures. Therefore, it is important to include those who are food insecure as well as those who actually experience lack of food.

Food insecurity is a managed process (Tarasuk, 2001) where individuals make choices in a sequence of events. These pathways to food insecurity can therefore, vary in terms of duration, coping strategies and consequences. Food insecurity can be episodic and temporal in nature.

A sense of security is experienced when people have a wide range of options, most of which are desirable, at their potential disposal and when they have confidence that they can exercise them. Insecurity is accompanied by a narrowing of the range of options, most of which are undesirable, and the uncertainty that they can exercise them. It has been pointed out, that food economies are exercised by people of all incomes, however, the poor have less choice in the duration, the type, the content and the responses to the need for food economies. Whether one is secure or insecure results in various behavioural consequences. If secure, people are able to focus their efforts on desired goals other than survival, to take risks when seizing opportunities, to create an orientation towards the future and to develop economic, social and human capital (Starkey, et al, 1998). Insecure people cannot. Anxieties may be heightened by knowing the consequences of the lack of food, and previous experiences of it (See Table 2).

It is wise to begin by specifying what food security is so that it possible to identify those that have failed to achieve it. Food security implies the certainty or confidence that there will be sufficient food in the foreseeable future. The elements involved in food security appear to include: the means and the ability to acquire food, the consumption of good quality food in sufficient quantity and the achievement of nutrition goals. While these elements are common to developing countries as well, the differentiating point is to accomplish these elements in the current Canadian context in a manner that meets community standards for respectability (without resorting to emergency or charitable food sources or scavenging) and fairness (without eliminating other options important for welfare, such as medical care, transportation, etc., necessary to function in modern societies).

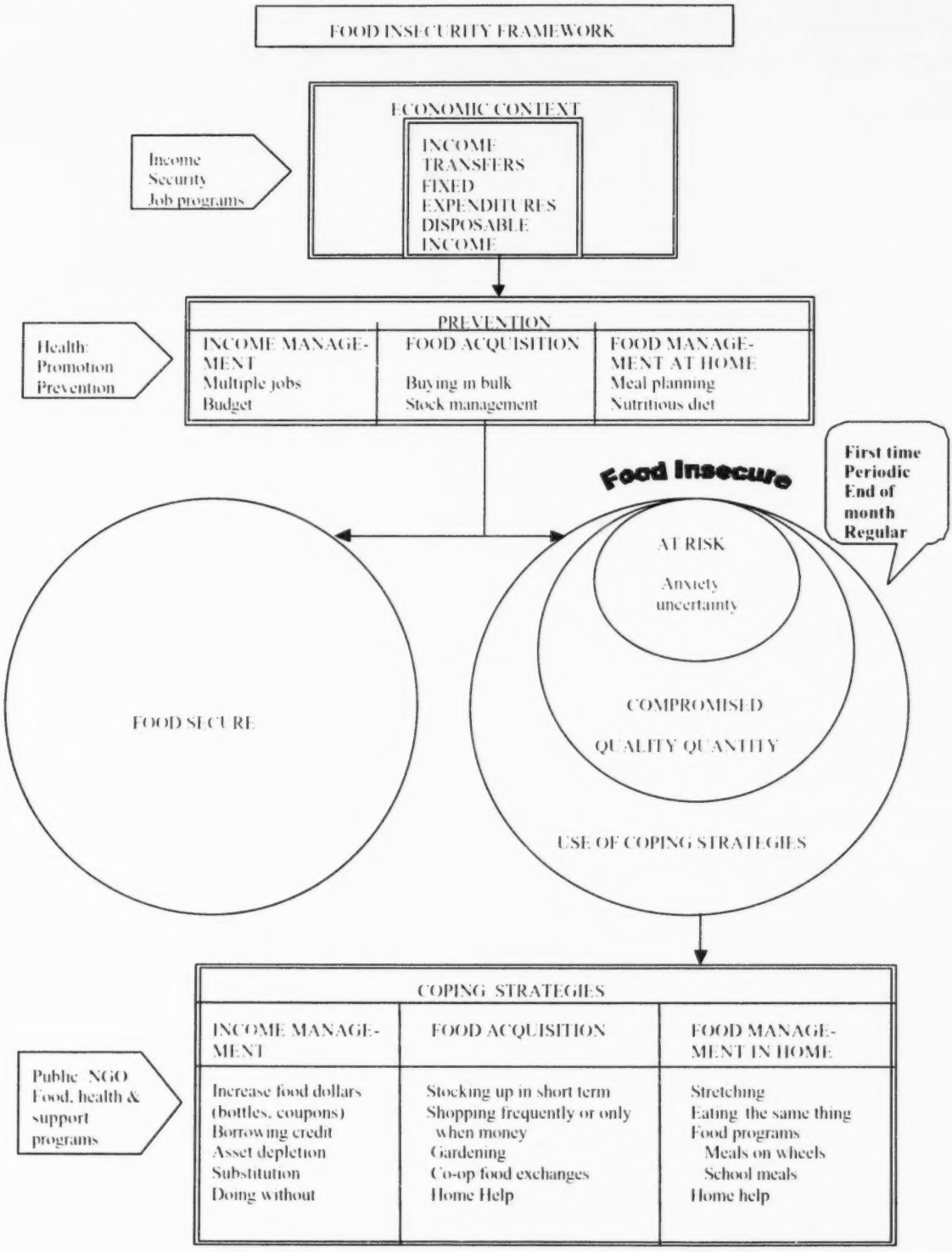
Table 2 **Consequences of Food Insecurity for Individuals and Households**

Food Secure	Food Insecure
Focus efforts on desired goals	Focus efforts on survival, could be time poor
Seize opportunities, take risks	Lack of resilience, no fall back
Future orientation	Live from moment to moment
Develop social and human capital	Have difficulty investing in themselves
Ability to develop support system	Poorer social network
Adequate earned income	Working poor, unemployment
Generally good health	Disability, chronic conditions

Food security has been defined as "Access by all people at all times to enough food for an active and healthy life. Food security includes at a minimum a) the ready availability of nutritionally adequate and safe foods b) an assured ability to acquire acceptable foods in socially acceptable ways" (Anderson, 1990). A Canadian definition is similar. "People have food security when they can get enough to eat that is safe, that they like to eat and that helps them to be healthy. They must be able to get this food in ways that make them feel good about themselves and their families."(Ontario Public Health Association, 1995).

Those that lack food security, as expected, are defined as failing to achieve this goal. This is demonstrated in the following two American definitions. Lack of food security is: "The inability to acquire or consume an adequate quality or sufficient quantity of food in socially acceptable ways or the uncertainty that one will be able to do so" (Radimer, et.al., 1992) and "Food insecurity exists whenever the availability of nutritionally adequate and safe foods or the ability to acquire acceptable foods in socially acceptable ways is limited or uncertain."(Anderson, 1990). A Canadian definition reflects the same issues: Food insecurity is the "inability to obtain sufficient, nutritious, personally acceptable food through normal food channels or the uncertainty that one will be able to do so." (Davis and Tarasuk, 1994).

Figure 1: **Food insecurity framework**



In this framework a distinction is made between those lacking food security and food insecurity, in the spirit of the last definition above. For this study, those who are not food secure (1) experience uncertainty that they will be able to acquire and consume adequate quality and quantity of food in mainstream ways (2) consume nutritionally inadequate food (3) consume reduced quantity and quality of food (4) acquire and consume food in non-mainstream (socially unacceptable) ways or by incurring further disadvantage (deplete assets, not spending on necessary medications, etc.). It recognizes that there can be a progression of severity in the process of food insecurity (Wolfe, et al. 1998) and that the conditions can be cumulative.

3.1.3 The emerging context

In Canada, as elsewhere, work and family, not the state were considered the principal foundations for social welfare. The range of government programs that are available were designed with this assumption and therefore are residual and safety net in nature. There are indications that during this era of transition, both the family and labour market have changed radically due to exogenous forces such as the global nature of trade and capital, the churning of labour markets, the demographic changes such as a population that is aging and increasingly diverse. Families, too, have changed in structure, composition and function due to increasing divorce and separation, lower fertility, and inability to build assets and security through the labour force participation. Some families incur a debt burden, when unable to manage unforeseen circumstances because they have insufficient disposable income to manage them. These changes have resulted in the re-emergence of problems that were once considered solved, or at least receiving attention.

Social policy reform and changes in government programs have also had their impact. Canada, along with other industrialized countries, is seeking to make adequate changes to policy to respond to the emerging context. While not abandoning government's residual role, there has been a tendency to rely more on markets on the one hand, and to shift responsibility back to family and community, on the other.

Lack of food security may be affected by social, legal, institutional or infrastructure factors and these are included in the context. However, economic factors are given prominence. For instance, low, irregular,

or failed streams of income may result from interrupted employment, non-standard jobs, or no job at all. In addition, income may be reduced or lost due to loss of an earning member of the family due to death or divorce. Persistent low income is associated with poor health and higher rates of disability which may affect access to food. There are also some indications that the system, or infrastructure, disadvantages those below a certain level of income. For example, persons with low income may unable to shop around for low food prices if they do not operate a car, or if they cannot pay transportation costs. Researchers have noted that community characteristics are important intervening variables in the experience of food insecurity (Olson, C.M., et al., 1996). Others have noted a change in the practice of food consumption with a preference for prepared or processed foods has resulted in people being inexperienced in preparing food, though "raw" food is cheaper.

Research and policy issues

Basic demographic information is necessary to understand the characteristics of the persons who are not food secure. It would be valuable to also have some basic information about their employment and health status.

The larger policy question is the degree to which transfers allow individuals and families to maintain a socially acceptable standard of living, while still having to rely on consumption in the market. Since only a minimum is guaranteed, the margin of manoeuvre offered is a key issue. Furthermore, while countries like the United States have food aid, such as food stamps, Canada, at least at the Federal level, does not offer food assistance. The value of food assistance for children in terms of breakfast programs and school lunches has been discussed by several provinces. Are income security programs sufficient to prevent the problem and to support those who lack food?

3.2 Income and Expenditure

Since socially accepted sources of food are provided in the market, income is a critical variable. Indeed, some researchers argue that all barriers to food sufficiency can be reduced to income. The sources of income and their reliability for a steady flow and reliable amounts are important to individuals and households. Households have worked to maintain a level of income necessary to raise families with a good quality of life. As real average income has been in decline, in the nineties, for the first time, census

data is picking up households that have two earners with more than two jobs as families seek to increase their income. The process of budgeting and planning is a key process for managing income in times of economic turbulence and labour market churning. For those with low income or irregular income, the planning horizon is short and money for contingencies may cut deeply into disposable income.

Though disposable income is the key, the flexibility afforded after fixed expenditures is important at low incomes. The lack of food security may be periodic, such as during periods of unemployment, or during the winter. For instance, those with fixed incomes such as the elderly have noted that their income is insufficient in the winter months when they have higher heating costs. For those with low incomes or high fixed costs, it may be experienced at the end of the month (Wilde and Ranney, 1998). Since much of the fixed expenditures such as rent are paid at the beginning of the month, they are faced with a phenomenon that is called "too much month at the end of the money."

Research and policy issues

Information on work history, income, sources of income, and disposable income will be necessary to inform policy. However, at low incomes, it is not only the relation between the income and expenditure, but also the pattern of inflows and outflows within the month or year. Information on those living under the low income cut-off or under conditions of deep poverty (50% of the low income cut-off) and the duration of such poverty may also be linked to the lack of food security.

3.3 Characteristics of Those Who Lack Food Security

The first step is to separate those who are food secure from those who are not. A series of questions would then try to illuminate the conditions faced by those who are not food secure. The literature desribes three negative food states experienced by people who are not food secure which are included in the framework. *Food insecurity* is the anxiety arising from the limited or uncertain ability to obtain and consume sufficient quantity of nutritionally adequate food through normal food channels. When food insecure households begin to reduce their intake or to reduce the quality of their diet, they are *nutrition insecure*. However, it should be noted that food security is a necessary but insufficient condition for nutrition security. Nutrition security may be adversely affected by food choices that are made, due to

factors other (lack of information, poor food habits, dieting, etc.) than income. *Food poverty* is the inability to obtain and consume sufficient quantity of nutritionally adequate food. These levels are not discrete and they tend to be cumulative. In other words, the food-poor also experience the anxiety of food insecurity. There can be movement between the three states. Those who are food insecure, may begin coping strategies for fear of running out of food. For instance, a family may experience all three levels in a month, worrying about a shortage of food and money, compromising quantity and quality of food to delay a crisis and, if money and food run out, absolute deprivation at the end of the month, until the cycle begins again.

The severity of the problem is a function of both the level to which food intake (quantitative and qualitative) is compromised and the duration of the deprivation. The distinctions are useful for developing a package of policies that target all three levels. While all three food states are problematic, the seriousness of the impacts vary with the severity and duration of the time spent in each state. Up to one fifth of food bank users are first time users, so for many this may be a new experience. They may not have developed ways to cope with the situation. Weight loss, on the other hand, would result only if persons experience food poverty for period of time. Income security programs may not be serving this group adequately.

The consequences of the lack of food security results also in behavioural decisions referred to above with long term results. Households that are food-insecure tend to spend more time and effort to obtain food for their members, in contrast to the current trend for households to reduce effort through intake of purchased prepared foods or restaurant meals. So the shortfall is not only of disposable income but also of disposable time. The nutrition-insecure are households that compromise their diet and begin to experience problems of low energy, deficiencies, anxiety and even hunger if meals are skipped over a long period. The impacts of chronic and repeated food poverty range from affected development for children, difficulty in learning for students, and low productivity for adults.

Within poor families, transfers can be of access to food. For instance, in many households of traditional culture, males may be fed first and followed by females but there may not be enough food for all. Mothers may feed children by reducing their own intake. This type of sharing has negative consequences of varying degrees for the members of the family, particularly for earning members.

3.3.1 Research and policy issues

To understand a predisposition to experience the lack of food security, it is important to know the characteristics of those who state they are food insecure. Perhaps, comparisons between those experiencing various conditions of lacking food will illuminate where existing policies are weak.

3.3.2 Suggested questions

Screening questions

Which of the following, best describes the food situation in your household in the past year:

a) You were satisfied with the food you ate.

b) You worried that you may not have enough to eat because you did not have enough money for food.

c) You sometimes did not eat the kind, quality or variety of food that you wanted to eat because you were running out of money.

d) You sometimes did not have enough food to eat because you ran out of money for food.

Source: Based on the National Population Health Survey Questionnaire with some modifications

A screening question separates those who are food secure from those who are not during a defined period (last year). Links to other questions in the survey will indicate their employment, age and health status. Screening for the last year allows the respondent to answer more detailed questions for that year.

The screened-in respondents are then asked a series of questions that provides insights into those who are not food secure. Questions have also been developed in prior surveys to measure food insecurity among adults and children, as well as households. For example, The Cornell Radimer questionnaire is a validated instrument (See appendix). However, experts pointed out that the concept of food insecurity measured by that instrument was not the same as described in this framework.

Positive responses to any of the questions other than the first allow us to examine the experience of those who are not food secure. Responses to the following questions provide more detail on their experience. The severity of the problem can be surmised from those who experience food poverty on a regular basis. For effective policy impact, responses would need to vary with periodicity of food insecurity. Therefore, questions on the periodicity of food insecurity are required. These will distinguish those who are food insecure for the first time, those who are periodically food insecure, those that are food insecure at the end of the month and those who are regularly food insecure.

Follow-up questions to those screened in

In the past year:

Did you worry whether food will run out in your household before there was money to buy more? (Never, at the end of the month, sometimes, often, always)

Rationale: Persons at risk or food insecure

Did you or anyone in your household eat cheaper foods or the same foods several days in a row because you did not have money to buy more food? (Never, at the end of the month, sometimes, often, always)

Rationale: Persons compromizing food quality (nutritionally at risk)

Did you or anyone in your household skip meals or eat less than you should because you lacked the money to buy food? (Never, at the end of the month, sometimes, often, always)

Rationale: Persons eating insufficient food (nutritionally at risk)

Have you or anyone in your household been hungry because you cannot afford to buy food? (Never, at the end of the month, sometimes, often, always)

Rationale: Persons experiencing food poverty

There continue to be concerns that responses to these questions may not provide a complete picture. The concerns are:

- Under-reporting due to the social stigma attached to hunger in food-rich countries.
- Since normal sampling may not result in sufficient responses from the poor and the near poor, the numbers may be too low to draw inferences.
- If there is one respondent per household, differences due to age and to family roles may not be captured.
- If the screening question relies on the respondent having actually experienced food insecurity in the past year, potential households at risk may not be captured. However, there is a preference to screening on the basis of actual experience, than a determinant such as low income.
- Questions should work over the life path and provide information on the vulnerable such as children and the elderly.
- Length of the reference period could affect prevalence rates. Questions should capture first time, repeat or episodic cases.
- Questions have been largely used on samples drawn from the low income population and users of food bank and may not work for the general population.
- Comparisons should be possible across settings and sub-populations.

3.4 Differences Between Those Who Are Food Secure and Those Who Are Not

As shown in the framework, those that are food secure have many options and most of these options are mainstream and desirable. Those who are not food secure, on the other hand, have fewer options and most of them are less desirable and not mainstream. These options can be grouped under food-related behaviour categories of income management, food acquisition and food management in the home. The focus of the questions deal with the use of options that are less desirable.

3.4.1 Income management

Income management involves ensuring the flow of income and expenditures in a manner that ensures the well-being of the household. The process is harder for low income households that have less disposable income and hard choices between necessary expenditures. They may have difficulties even with foreseen expenditures and unexpected expenditures can upset the budget over long periods.

First time food insecure households may have options that are not available to those with a persistent problem of food security. They may borrow hoping that the crisis will pass, or they may start to deplete assets, ranging from borrowing from mainstream credit institutions against the security of house or car, or other institutions such as pawnshops which accept other durables as security. Even informal borrowing may be difficult because most poor people, tend to know people like themselves who do not have much income. But credit is not a viable option for those in constant food insecurity since they have depleted their assets and have little ability to pay back loans. It makes it impossible for them to make ends meet in the months when the debt is repaid. Some are able to manage small shortfall by either the use of coupons or returning bottles and cans to increase food dollars or by substituting regular expenditures, such as avoiding transportation or drug expenditures in favour of food.

Research and policy issues

It is possible that below a certain level of income, middle class solutions no longer hold, however, these often characterize the recommendations that are made. For example, gardening to reduce costs for fresh produce, is not attractive to households who may live in rooms or apartments without land, and are not sure that they can pay the rent long enough to reap the fruits of their labour. Options, therefore, may fall into categories that are not socially acceptable.

Under income management, the key issues for research and policy are the barriers faced by households with respect to, the inability to increase income, inability to deal with unexpected expenditures resulting in forced substitution, inability to deal with expected variations (rents at the beginning of month, heating costs in winter), very high fixed expenditures (including rent, mortgage). Employment and income information will provide some background but the picture would be one sided because of the lack of expenditure data. Substitution was an issue addressed by questions in the U.S. (See appendix). Some

of the other issues may be handled by examining other sources, such as tax files, or information on expenditures, though links are not possible with the National Population Health Survey. If recipients of social assistance are using money allocated to food for housing or other needs, the calculations for social assistance payments may require revisiting. It may also be worthwhile providing a larger margin to allow households some economic flexibility, in exchange for reduced public expenditures in the long run. Information on the percentage of monthly expenditures dedicated for shelter would provide an indication if housing costs are squeezing other necessary expenditures.

Suggested questions

1) What proportion of your income do you spend on Housing (Rent or mortgage + taxes __in)?

2) People do different things to stretch their food money when they cannot afford food. In the past year, has anyone in your household: (Never, sometimes, often)

   a) Borrowed money for food?

   b) Sold or pawned possessions for food money?

   c) Used coupons or returned bottles at the end of the month when short of food money?

   d) Delayed paying bills to keep money for food?

   e) Did without heat or telephone to keep money for food?

   f) Bought food on credit?

   g) Grew some of your food?

   h) Hunted or fished for food?

   i) Joined a food buying club?

Rationale: Information on income management

3.4.2 Food acquisition

Food acquisition activities can make a difference to food security. Food staples may be bought in large quantities. Other food products can be bought in bulk to reduce costs while shopping more frequently for fresh foods with short storage times. With good stock management additional flexibility is gained for composing meals for both quality and variety.

When income is irregular or low, households may have fewer options. They may shop daily to eke out money for food or they may be forced to rely on options that are less desirable such as using a food bank. Programs such as home care for elderly and disabled people may assist them with the purchase of food if they are unable to do so themselves.

The key barriers to food acquisition are poor health, disabilities, transportation costs, limited choice of shopping possibilities without transportation, inability to stock up or buy in bulk or store food. Some variables interact, too. The lack of transportation limits the geographic shopping range and bulk buying, particularly when food must be carried back. Elderly and disabled persons encounter difficulties shopping, particularly in winter. These factors, in addition to a shortage of money, may require frequent shopping trips with small packages: which, may be more expensive then large ones.

Research and policy issues

The tested survey questions appear to be limited to those addressing poor health and disabilities or the use of food banks. Some questions have been included in other Canadian surveys such as the Health and Activity Limitation Survey and the General Social Survey (See appendix). The question suggested is based on this experience.

Have you or others in your household had problems shopping for food? No,

- Yes, stores too far away.
- Yes, no transportation.
- Yes, no money for transportation.

- Yes, ill (health).

- Yes, disability.

- Yes, other problems.

Rationale: Difficulties accessing food

3.4.3 Food management

Food management at home requires the proper storage of food, judicious meal planning and monitoring for nutritious content. Lack of adequate food storage can result in spoilage, and waste as well as working with the short term life of foods. Where time is an issue, the quality of foods may be sacrificed.

Positive options include meal planning to ensure the use of inexpensive foods, using ingredients on hand and foods in season. Negative options include stretching food components by reducing quality and eating the same thing over and over again. It is also possible to also rely on programs such as meals on wheels and school meals. Food may be prepared for some elderly and disabled persons by home care workers.

Policy and research issues

For most people, it appears that when quantity is an issue, nutrition and variety are not a consideration. For some, however, there are some critical requirements due to health conditions. For instance, those on insulin treatment require food intake at fixed times. Disability or disease may require special diets or soft foods. Those allergic to certain food may require special foods that tend to be more expensive. While a generic food allocation may be part of the social allowance, it is an issue whether a special allocation is required for certain conditions or whether a greater margin allows sufficient flexibility.

Most surveys in the past have not used questions on this type of detail. There have been some questions on surveys that include participation on programs such as home care, meals on wheels and school meals. Diary type of information on food expenditure and consumption are rarely collected because they are labour intensive. Nutritious food basket calculations appear to be more common, however, it is not clear how closely these resemble the actual food consumption of those of low income.

Suggested questions

Have you or any one in your household used the following programs:

- Meals on wheels?
- School meals?
- Home care for shopping or and food preparation?

Rationale: Use of food services. The National Population Health Survey has a question on the use of home care services in the past month. It does not capture school meals.

3.5 Child Food Insecurity

The government has made the reduction of child poverty a major policy objective. Lack of food or poor food has pernicious and long term effects on the development of children. This will be a good opportunity to gain data and to link it to other population health data.

Suggested questions on child food insecurity

In the past year: (Never, at the end of the month, sometimes, often, always)

1. Have you worried that you cannot afford to feed your child?
2. Were you unable to provide your child with a variety of foods to make up a balanced diet because you could not afford it?
3. Did you reduce the size of your child's meals because there was not enough money for food?
4. Has your child been hungry because there was not enough food and not enough money to buy more?
5. Has you child lost weight due to skipped meals because you could not afford food?

Rationale: To identify children at risk, eating food of compromised quality, insufficient food, food poverty and at-risk from hunger

3.6 Limitations and Federal Priorities

3.6.1 Limitations

A major limitation will be the inability to develop the long term consequences of food insecurity from a single supplement to the NPHS. Some socio-demographic information may be available from the main survey.

3.6.2 Federal priorities

The exercise of personal responsibility and civic participation requires fairness as well as equality. Research on food insecurity is the negative extreme of inequality and would contribute to this priority. Lack of food security affects adults and their capacity to be productive and to cope with the future. Furthermore, another goal is to invest in children. Food insecurity affects the development of children, and has physical, social and psychological consequences for their future. Child poverty is a major target of policy attention.

Appendix A

Peer Reviewers

Herb Babolet
Micheline Beaudry
Daniel Beavon
Danielle Brûlé
Mary Bush
Gary Catlin
Susan Crawford
Barbara Davis
Helène Delisle
Lise Dubois
Carol Dumbrow
Jason Foster
Anne-Marie Hamelin
Beth Junkins
Stefa Katamay
Mustafa Koe
Esther Kwaniek
Debbie Leach
Silvana Luciani
Rob McRae
Howard Morrison
Katherine Olson
Christine M. Olson
Debra Reid
Graham Riches
Barbara Roebothan
Joel Rouffignat
Cathy Sabiston
Judy Sheeshka
Valerie Tarasuk
Frances Thompson
Kim Travers
Jennifer Welsh

Appendix B

Review of Previously-Used Questions

Questions to identify those not food secure

United States Department of Agriculture Questions

1. Thinking about the past year, which of the following statements best describes the amount of food eaten in your household: Enough to eat, sometimes not enough to eat, often not enough to eat?

2. (If enough) Over the past year, did you have: enough and the kind of food you wanted to eat, enough but not always the kind of food you wanted to eat?

Nutrition Screening Initiative (NSI) Food Insecurity Item

I don't always have enough money to buy the food I need.

Cornell-Frongillo Item

Did you ever not eat for a whole day because you had no food or money to buy food?

The Urban Institute Questions

1. In the past year, have there been days when you had no food in the house and no money to buy food? (U.S. question includes food stamps)

2. In the past year, have you skipped meals because you had no food in the house and no money to buy food?

The National Population Health Survey, Canada

1. Which of the best following describes the food situation in your household?

   a. Always enough food to eat

   b. Sometimes not enough food to eat

   c. Often not enough food to eat

2. Thinking about the last 12 months, did your household ever run out of money to buy food?

Questions regarding food insecurity

The Cornell Radimer questionnaire to estimate the prevalence of hunger and food insecurity

Responses: Often true, sometimes true, never true

1. I worry about whether my food will run out before I get money to buy more.
2. I worry about whether the food that I can afford to buy for my household will be enough.
3. The food that I bought just didn't last and I didn't have money to get more.
4. I ran out of the food that I needed to put together a meal and I didn't have money to get more food.
5. We eat the same thing for several days in a row because we only have a few different kinds of food on hand and don't have money to buy more.
6. I am often hungry, but I don't eat because I can't afford enough food.
7. I eat less than I think I should because I don't have enough money for food.
8. I can't afford to eat properly.
9. My child(ren) is are not eating enough because I can't afford enough food.
10. I know my child(ren) is are hungry sometimes but I can't afford more food.
11. I cannot afford to feed my child(ren) a balanced meal because I can't afford that.
12. Sometimes people lose weight because they don't have enough to eat. In the past year, did you lose weight because there wasn't enough food? (Yes, No)
13. In the past year, have you had hunger pangs but couldn't eat because you couldn't afford food? (Yes, No)

A household is:

Food secure if.....None of the answers to item 1-11 are positive.

Food insecure if .....one or more answers to items 1-11 are positive

Individual insecure if .....one or more answers to items 6-11 are positive

Individual hungry if.....one or more answers to items 6-8 are positive and

(a) one or more answers to items 12-13 are positive

(b) one or more answers to items 9 and 10 are positive

Child hungry if.....one or more answers to items 9-10 are positive.

The Edmonton Hunger Scale

The scale was used by the Edmonton Food Policy Council in 1990. The scales were adapted from the instrument used by the Washington-based Food Research and Action Centre in their Community Childhood Hunger Identification Project (CCHIP) in seven states in the U.S. and New York City in 1991. There was both an adult and child hunger scale, both based on a series of five questions. CCHIP questions include questions on the household level and the individual level. The questions are similar to the Cornell Radimer scale.

Questions on the Adult Hunger Scale

1. Worry, anxiety

I worry whether my food will run out before I get money to buy more.

2. Lack of income to buy food

Does your household ever run out of money to buy food?

3. Food insufficiency - quantity

Do you ever eat less than you feel you should because there is not enough money to buy food?

4. Diet inadequacy - quality

Do you ever cut back to eating just a few kinds of cheaper food because of not enough money?

5. More severe food insufficiency

Have you ever gone without food for a day or more because there wasn't enough money to buy food?

Questions in the Child Hunger Scale

1. Quality of food

I can afford to feed my child good quality food.

2. Variety of food

I can afford to give my child many different kinds of food.

3. Food insufficiency - quantity

Do you ever have to cut the size of your child's meals because there is not enough money for food?

4. Reported hunger

Is your child ever hungry because there is not enough food in the house and there is no money to buy more?

5. Severe food insufficiency

Has your child ever gone without food for a day or more because there wasn't enough money to buy food?

Adults who answered Yes to all five questions were considered Very Hungry, Yes to three or four questions, Hungry, and Yes to one or two questions, At Risk; and No to all questions as Not Hungry. On the child hunger scale, a No to the first two questions and Yes to the last three questions meant that the child was Very Hungry (Olson, K.W. 1992, p. 7.50).

Questions on income management

Urban Institute Questions

1. In the past year, have you had to choose between buying food and paying rent or utility bills? (Can add mortgage and maintenance bills)

2. In the past year, have you had to choose between buying food and buying medicines?

Appendix C

Questions in the Food Insecurity Supplement, 1998-1999

FI C_01 If age is greater than or equal to 16, go to INT6A
If age is less than or equal to 16, go to INT4A

FI INT6A May I speak to [FNAME]?

FI INT4A Does [FNAME] still live or stay in this household?
FIS8DCHD

1 YES
2 NO
3 REFUSED
4 DON'T KNOW

FI PROXY1 For selected persons aged 16 and over:
FIS8DPXY Is the questionnaire being completed by [FNAME]?

1 YES
2 NO (SPECIFY RELATIONSHIP AND REASON FOR PROXY)

FI SEC_1 We'll start with a few questions about problems shopping for food.

FI Q5 In the past 12 months, did you or anyone else in your household have problems shopping for food because the stores were too far away?

FIS8_1A

1 YES
2 NO
DK, R

FI Q5B In the past 12 months, did you or anyone else in your household have problems shopping for food because transportation was not available?

FIS8_1B

1 YES
2 NO
DK, R

FI Q5C In the past 12 months, did you or anyone else in your household have problems shopping for food because there was no money for transportation?

FIS8_1C

1 YES
2 NO
DK, R

FI Q5D In the past 12 months, did you or anyone else in your household have problems shopping for food because of a long-term disability?

FIS8_1D

1 YES
2 NO
DK, R

FI Q5E In the past 12 months, did you or anyone else in your household have problems shopping for food because of a health problem?

FIS8_1E

1 YES
2 NO
DK, R

FI Q5F In the past 12 months, did you or anyone else in your household have any other problems shopping for food?

FIS8_1F

1 YES (SPECIFY)
2 NO
DK, R

FI SEC_2 Now a few questions about the different things people do to stretch their food money.

FI Q3 In the past 12 months, when there was not enough money for food, did you or anyone else in your household

FIS8_2A ... Borrow money?
FIS8_2B ... Sell or pawn possessions?
FIS8_2C ... Use coupons or return bottles?
FIS8_2D ... Delay paying bills?
FIS8_2E ... Do without heat?
FIS8_2F ... Do without a telephone?
FIS8_2G ... Buy food on credit (not counting using a credit card)?
FIS8_2H ... Grow some of your own food?
FIS8_2I ... Hunt or fish for your own food?
FIS8_2J ... Borrow food?
FIS8_2K ... Join a food buying club?
FIS8_2L ... Join a collective or community kitchen?
FIS8_2M ... Anything else? (SPECIFY)

1 YES
2 NO
DK, R

FI Q6 In the past 12 months, how often did you or anyone else in your household receive food from a food bank, soup kitchen or other charitable agency because there was not enough money for food?
READ LIST. ENTER ONLY ONE RESPONSE.

FIS8_3

1 Often
2 Sometimes
3 Never (Go to SK_03)
DK, R (Go to SK_03)

FI Q6A Did this happen mostly at the end of the month?

FIS8_3A

1 YES
2 NO
DK, R

FI_SK_03 If age less than 16, go to SECT_2A.

FI Q7 Now, a few questions just about [you - FNAME]. In the past 12 months, how often did [you FNAME] worry that food would run out before there was money to buy more?
READ LIST. ENTER ONLY ONE RESPONSE.

FIS8_4

1 Often
2 Sometimes
3 Never (Go to Q8)
DK, R (Go to Q8)

FI Q7A Did this happen mostly at the end of the month?

FIS8_4A

1 YES
2 NO
DK, R

FI Q8 In the past 12 months, how often did [you - FNAME] eat cheaper foods or eat the same foods for several days in a row because there was not enough money for food?
***READ LIST. ENTER ONLY ONE RESPONSE ***

FIS8_5

1 Often
2 Sometimes
3 Never (Go to Q9)
DK, R (Go to Q9)

FI Q8A Did this happen mostly at the end of the month?

FIS8_5A

1 YES
2 NO
DK, R

FI Q9 In the past 12 months, how often did [you / FNAME] skip meals or eat less than [you/he/she] should because there was not enough money for food?
READ LIST. ENTER ONLY ONE RESPONSE.

FIS8_6

1 Often
2 Sometimes
3 Never (Go to Q10)
DK, R (Go to Q10)

FI Q9A Did this happen mostly at the end of the month?

FIS8_6A

1 YES
2 NO
DK, R

FI Q10 In the past 12 months, how often (have/has) [you / FNAME] been hungry because there was not enough money for food?
READ LIST. ENTER ONLY ONE RESPONSE.

FIS8_7

1 Often
2 Sometimes
3 Never (Go to SEC_3)
DK, R (Go to SEC_3)

FI Q10A Did this happen mostly at the end of the month?

FIS8_7A

1 YES (Go to SEC_3)
2 NO (Go to SEC_3)
DK, R (Go to SEC_3)

FI SEC_2A Now, a few questions about [your child / FNAME].

FI Q11 In the past 12 months, did [your child / FNAME] use a school meal program? Include breakfast, lunch and after school programs.

FIS8_8

1 YES
2 NO
3 NOT APPLICABLE
DK, R

FI Q12 In the past 12 months, how often did you worry that you could not afford to feed [your child / FNAME]?
READ LIST. ENTER ONLY ONE RESPONSE.

FIS8_9

1 Often
2 Sometimes
3 Never (Go to Q13)
DK, R (Go to Q13)

FI Q12A Did this happen mostly at the end of the month?

FIS8_9A

1 YES
2 NO
DK, R

FI Q13 In the past 12 months, were you unable to give [your child / FNAME] balanced meals because there was not enough money for food?

FIS8_10

1 YES
2 NO (Go to Q14)
DK, R (Go to Q14)

FI Q13A How often?
READ LIST. ENTER ONLY ONE RESPONSE.

FIS8_10A

1 Often
2 Sometimes
3 Never (Go to Q14)
DK, R (Go to Q14)

FI Q13B Did this happen mostly at the end of the month?

FIS8_10B

1 YES
2 NO
DK, R

FI Q14 In the past 12 months, did you have to reduce the size of [your child / FNAME]'s meals because there was not enough money for food?

FIS8_11

1 YES
2 NO (Go to Q15)
DK, R (Go to Q15)

FI Q14A How often?
READ LIST. ENTER ONLY ONE RESPONSE.

FIS8_11A

1 Often
2 Sometimes
3 Never (Go to Q15)
DK, R (Go to Q15)

FI Q14B Did this happen mostly at the end of the month?

FIS8_11B

1 YES
2 NO
DK, R

FI Q15 In the past 12 months, has [your child / ENAME] ever been hungry because there was not enough money for food?

FIS8_12

1 YES
2 NO (Go to Q16)
DK, R (Go to Q16)

FI Q15A How often?
***READ LIST. ENTER ONLY ONE RESPONSE ***

FIS8_12A

1 Often
2 Sometimes
3 Never (Go to Q16)
DK, R (Go to Q16)

FI Q15B Did this happen mostly at the end of the month?

FIS8_12B

1 YES
2 NO
DK, R

FI Q16 In the past 12 months, did [your child / ENAME] miss any meals because there was not enough money for food?

FIS8_13

1 YES
2 NO (Go to SK_Q4)
DK, R (Go to SK_Q4)

FI Q16A How often?
***READ LIST. ENTER ONLY ONE RESPONSE ***

FIS8_13A

1 Often
2 Sometimes
3 Never (Go to SK_04)
DK, R (Go to SK_04)

FI Q16B Did this happen mostly at the end of the month?

FIS8_13B

1 YES
2 NO
DK, R

FI SK_04 If Q14A = 1 or Q15A = 1 or Q16A = 1, go to Q17. Otherwise, go to SEC_3

FI Q17 Has [your child / FNAME] lost weight in the past 12 months?

FIS8_14

1 YES
2 NO
DK, R

FI SEC_3 The amount of money that people have available for food is affected by how much money they spend on housing.

FI Q18 Do you or any other member of your household own the dwelling (even if it is still being paid for)?

FIS8_15

1 YES
2 NO (Go to Q20)
DK, R (Go to SHARE)

FI Q19 What are the regular mortgage payments?

FIS8_16

____ DOLLARS [Min. 00001 Max: 50000]
No (Go to Q19B2)
DK, R (Go to SHARE)

FI Q19A Are these payments made...
READ LIST. ENTER ONLY ONE RESPONSE.

FIS8_16A

1 Monthly
2 Every two weeks
3 Weekly
4 OTHER (SPECIFY) (Go to Q19B1)
DK (Go to Q19B1)
R (Go to SHARE)

FI CAL19 If Q19A = 1, mortgage = 12 x Q19.
If Q19A = 2, mortgage = 26 x Q19.
If Q19A = 3, mortgage = 52 x Q19.
If mortgage gt. 8000, go to CHK19. Otherwise, go to Q19B1

FI CHK19 So that was [Q19] [monthly/every two weeks/weekly]. (Is this correct?)

1 YES, TO CONTINUE
2 NO, TO CORRECT (Go to Q19)

FI Q19B1 Are municipal taxes included in the mortgage payment?

FIS816B1

1 YES (Go to Q19C)
2 NO
DK (Go to Q19C)
R (Go to SHARE)

FIQ19B2 For the past 12 months, what were the household expenditures for the following items: Municipal taxes?

FIS816B2

DOLLARS [Min: 00001 Max: 30000]
None
DK, R

FIQ19C For the past 12 months, what were the household expenditures for the following items: Electricity?

FIS8_16C

_____ DOLLARS [Min: 00001 Max: 30000]
None
DK
R (Go to SHARE)

FIQ19D For the past 12 months, what were the household expenditures for the following items: Other fuel for heating and cooking such as gas, oil, wood or propane? Do not include electricity.

FIS8_16D

_____ DOLLARS [Min: 00001 Max: 30000]
None
DK
R (Go to SHARE)

FIQ19E For the past 12 months, what were the household expenditures for the following items: Water and sewage charges?

FIS8_16E

_____ DOLLARS [Min: 00001 Max: 30000]
None
DK, R (GO TO SHARE)

FI Q20 What are the REGULAR rental payments?

FIS8_17

____ DOLLARS [Min: 00001 Max: 50000]
None (Go to Q20C)
DK, R (Go to SHARE)

FI Q20A Are these payments made ..
READ LIST. ENTER ONLY ONE RESPONSE.

FIS8_17A

1 Monthly
2 Every two weeks
3 Weekly
4 OTHER (SPECIFY) (Go to Q20C)
DK (Go to Q20C)
R (Go to SHARE)

FI CAL20 If Q20A = 1, rent = 12 x Q20.
If Q20A = 2, rent = 26 x Q20.
If Q20A = 3, rent = 52 x Q20.
If rent gt. 6000, go to CHK20. Otherwise, go to Q20C.

FI CHK20 So that was [Q20] [monthly/every two weeks/weekly]. (Is this correct?)

1 YES, TO CONTINUE
2 NO, TO CORRECT (Go to Q20)

FI Q20C For the past 12 months, what were the household expenditures for the following items:
Electricity?

FIS8_17C

____ DOLLARS [Min: 00001 Max: 40000]
None or included in rent
DK
R (Go to SHARE)

FI Q20D For the past 12 months, what were the household expenditures for the following items Other fuel for heating and cooking such as gas, oil, wood or propane? Do not include electricity.

FIS8_17D

DOLLARS [Min: 00001 Max: 30000]
None or included in rent
DK
R (Go to SHARE)

FI Q20E For the past 12 months, what were the household expenditures for the following items Water and sewage charges?

FIS8_17E

DOLLARS [Min: 00001 Max: 30000]
None or included in rent
DK, R

FI SHARE Statistics Canada is conducting this survey jointly with Human Resources Development Canada. All the information will be kept confidential and used only for statistical purposes. Do you agree to share all the information provided as part of this survey with Human Resources Development Canada?

FIS8DSHA

1 YES
2 NO
DK, R